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THE BUILDER

VOL. CII.—No. 3612. APRIL 26, 1912.

CONTENTS.

	PAGE
The British School at Rome	475
Hospital Criticism	476
Notes	476
The Exhibition of the International Society	477
The Royal Institute of British Architects (with illustrations)	478
The Society of Architects	480
Recent Workmen's Compensation Cases—II.	481
Architectural Societies	482
General News	482
Competition News	482
Books	483
Correspondence	484
Intercommunication Column	484
Editorial Summary	485
Meetings	485
Notes to Illustrations	485
Magazines and Reviews	485
Fifty Years Ago	486
Monthly Review of Engineering:—	
Lighting by Air-Gas (with Illustrations)	487
Foundation Loads.—IV.	488
The Colloidal Nature of Cement	489
Pure Cement Concrete as a Lining for Kilns	489
Reinforced Concrete	489
Notes	490
The Building Trade:—	
The Modern Bricklayer and His Work	491
The Mediæval Carpenter	491
London Master Builders' Association	491
Building Plans and Building Prospects	491
Government Contracts	492
Labour in the Building Trade	492
General Building News	492
Projected New Buildings in the Provinces	493
Metropolitan Asylums Board	493
Foreign and Colonial	493
The Ideal Home Exhibition (with Illustrations)	494
The Sculptor's Assistance to Architecture	496
Legal Column	498
Law Reports	498
London Councils	498
Obituary	499
Patents	499
List of Competitions, Contracts, etc., Open	500
Some Recent Sales	502
Prices Current	502
Tenders	504

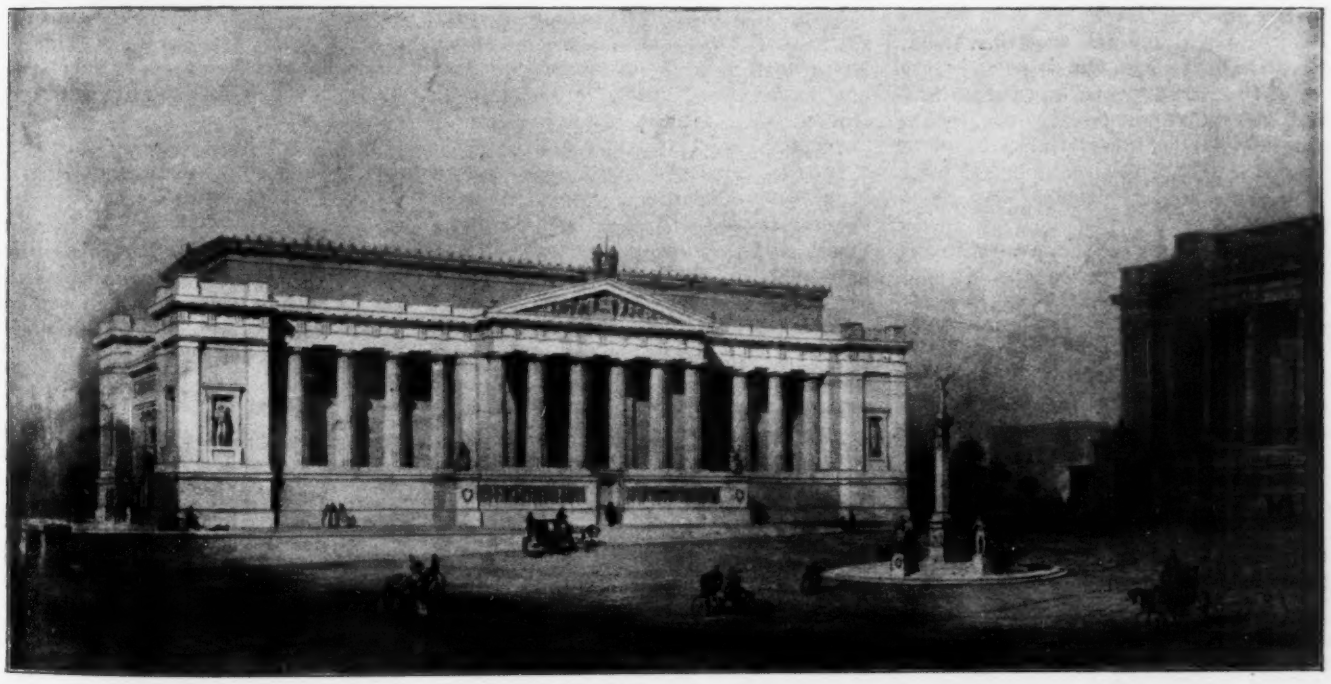
Illustrations.

The Cathedral at Senlis, Oise, France. Drawn by Mr. P. D. Hepworth.

The Abbey Gateway, Bury St. Edmunds. Drawn by Mr. P. D. Hepworth.

Baptist Church and Schools, Nottingham. Messrs. Sutton & Gregory, Architects.

The Church of St. Luke, West Hartlepool: Second Premiated Design, by Mr. J. H. Morton, F.R.I.B.A.



Design for Assize Courts, Liverpool, by Elmes. (*See page* 479.)

THE BRITISH SCHOOL AT ROME.

ALL those who have so worthily striven towards the formation of the British School at Rome may be heartily congratulated on the success of their efforts. The announcement that a Royal Charter has been granted for the promotion of the study of archæology, history, and letters, architecture, painting, sculpture, and the allied arts, marks a definite step forward in the advancement of architecture in this country.

While continuing the archæological and other researches hitherto carried on by the Old British School at Rome, the Charter provides also for the establishment of a hostel, general library, and studios, and for the awarding of scholarships and other forms of assistance to students in connexion therewith. Provision is also made for four Faculties—viz., Archæology, History, and Letters; Architecture; Painting; and Sculpture; and for such others as the Council shall from time to time determine.

This Council, as provided by Article II., is to consist principally of members nominated by various public bodies, and appears to be so constituted as to ensure a minimum of three architects, one to be appointed by the Royal Academy and two by the Royal Institute of British Architects. With the exception of the Royal Society of British Sculptors, however, there is evidently no reason why any of the other bodies concerned should not appoint architects to represent them or why architects should not be co-opted under the terms of Clause 6. Indeed, the Royal Scottish Academy and the Royal Hibernian Academy by the appointment of Mr. J. J. Burnet and Sir Thomas Deane create a precedent which may possibly be followed by other authorities in the future. The first Council thus comes into existence with five architect members, including, in addition to those already mentioned, Sir Aston Webb, appointed by the Royal Academy, and Mr. Reginald Blomfield and Mr. J. W. Simpson, appointed by the Institute. This selection is, we think, fairly representative, and will no doubt be considered generally satisfactory. The inclusion of two architects to serve on the Executive Committee with two painters and two sculptors, giving six artists out of a total of fifteen, may be considered reasonable so long as the present proportion remains, but should it be deemed necessary to increase this number we hope the representation of the various arts will be increased in proportion.

Everyone interested in the future of architecture, while seeing in this announcement much cause for gratification, must realise that the future usefulness of the School will largely depend on the wisdom and foresight of those

entrusted with the preliminary organisation. So much will depend on approaching the subject from the right point of view, so that the School may be established on the right lines. Considering the present unsatisfactory and even chaotic condition of our educational methods, it appears evident that it will be wiser to organise this School once and for all on ideal lines to which our educational methods will by degrees adjust themselves rather than to attempt to adjust the School to meet present-day conditions. These, we hope and believe, are but temporary, and even now in process of an improvement which will bring them more into line with continental and international opinion.

This, we imagine, is, for the students of this country, one of the great advantages of this School. Situated as we are, on an island on the Western fringe of the continent, it has been our fate all through the centuries that witnessed the growth of Western civilisation to be far removed from the great centres of European thought and culture. Whatever success we may have achieved has been rather the success of individuals than of schools; and through it all it has been only the men of the rarest mental equipment who have succeeded in freeing themselves from the taint of provincialism and in lifting themselves up to that height from which alone an international outlook is possible.

Although in our old university towns we possess centres of thought and of culture, whose value we would not for one moment wish to belittle, yet we have nothing comparable to the great international centres of Europe for the exercise of just the influence which is so necessary to widen the mental and spiritual horizon, and to quicken the sympathy and insight of the young artist; nothing that brings him into touch in quite the same way with the keenest minds and most forceful personalities of other countries, so enabling him to realise the limitations of his national outlook, and to find his own level from an international standpoint.

Whatever advantages Paris may possess in helping the student to find his own level, her chief value is in the acquisition of the technique of art. In this respect she is universally recognised as the leading school; but for the acquisition of culture Rome is supreme.

It is, we imagine, for this latter purpose that the British School at Rome is intended. Not as a school of technique, but of general culture. Not a classroom in which to study the principles of architecture, but a cloister in which to meditate on their application. To ensure to the student just leaving the schools a period of quiet and a breathing-time in which he may assimilate his knowledge and under the gracious influence of such an incomparable environment and in sympathetic communion with the most gifted minds of all nationalities may gradually find himself and the place of his art in the scheme of existence.

In order to reap the full advantage of such an opportunity and to hold his own with the picked men of the Beaux-Arts and other foreign schools, it is evidently necessary that the English student should take with him a very complete technical equipment. At the first start, no doubt, this will prove a difficulty, as it is idle to pretend that our Gold Medallists from the Academy or other picked students from any other of our schools can be for one moment compared in this respect to the winners of the Grand Prix de Rome or to the selected students of Germany or America.

Although there may at first be a danger that inferiority of technical knowledge and an insular outlook may tend towards isolation and to the maintenance of those provincial characteristics which it should be one of the principal objects of such a school to soften or eradicate, yet it may, we think, be confidently anticipated that as the School gradually gets into touch with the Villa Medici and the Villa Aurelia the natural desire to be on equal terms with their occupants will lead to a demand for a higher standard of education, and so exercise an uplifting influence on our schools at home and bring them more into touch with the best that is known and thought in the world.

It is this friendly intercourse with students of other nationalities which we are inclined to think even more important and more advantageous to the English student than all the art treasures or the historic associations of Rome.

In the cultivation and maintenance of a sympathetic understanding with the representatives of foreign countries much will naturally depend on the personnel of those selected as heads of the various Faculties. We are confident that every effort will be made to secure a wise selection, and that under competent guidance a brilliant future is assured for the British School at Rome.

HOSPITAL CRITICISM.

THE severe and outspoken criticisms on the buildings of the Sheffield Royal Hospital contained in an article contributed by Sir Henry Burdett to a recent number of the *Hospital* were dealt with at the last quarterly meeting of the Royal Hospital Board. A Special Committee, which was appointed to investigate the matter, satisfied itself as to the unwarranted character of many of the allegations, just one-half of the statements being found to be absolutely contrary to fact. As to the others, which were true to a greater or less extent, some were said to be of little importance and others a matter of opinion.

Everyone will freely admit the value, even the necessity, of criticism, however severe and outspoken, and we are quite sure no architect would resent it provided it is well-informed and true in substance and in fact. Judging from the report of the Special Committee, this criticism is neither, and is therefore to be deprecated.

Sir Henry Burdett's interest in hospitals is well known, and no one would question his *bona fides*. We can only imagine therefore that, as far as the matters of fact are concerned, the suggestion of the Committee that his inspection of the Royal Hospital "was very imperfectly performed, or that amidst the number of institutions visited his memory of details has failed him, or his notes have been accidentally misplaced," accounts for so many misstatements.

As to the matters of opinion, with all respect to Sir Henry Burdett's knowledge of the subject, a layman's opinion can hardly be accepted as the last word on hospital construction, as distinct from its administration, nor as to the best way to lay-out a hospital on a given site to avoid waste of space and subsequent cost of upkeep. As the Committee considers that a better plan for utilising the available space would be difficult to suggest, the two lay opinions on this point may be left to cancel one another.

Whatever value there may be in the point of view Sir Henry Burdett puts forward on matters of construction, it must be remembered that medical science is rapidly advancing and that opinions based upon it change from year to year, and that it would, we think, be rather difficult to obtain a general consensus of opinion from medical men and hospital administration on more than the general outlines of the lay-out or construction of hospitals.

But in any event it hardly seems fair to make remarks which might be taken to infer that those employed to design any particular hospital are not competent unless the statement can be substantiated by facts which do not meet with instant contradiction.

It is generally recognised that the best results in hospital construction can only be obtained by intelligent and cordial co-operation between those who administer them and those who design them. Such regrettable incidents as this will hardly tend to promote it, unless mistakes honestly made are candidly admitted.

NOTES.

The Institute Drawings. THE paper read at the Institute on Monday evening was illustrated by original drawings dating from the early XVIth century down to those by Wm. Eden Nesfield. In the subsequent discussion the question arose as to whether the Institute or the Victoria and Albert Museum were the more fitting permanent home for architectural drawings. Mr. Strange, of South Kensington, manfully supported the case for the Institution which he serves; but the general feeling of the meeting was, so far as we could gather, in favour of housing them at Conduit-street. Architectural drawings are a thing apart, and rarely interest the larger public who visit museums. The Institute collection, already considerable, is steadily growing, and if the Council cannot enter into a purchasing competition with South Kensington, it can at any rate welcome gifts with equal pleasure. It is true that at present the accommodation at Conduit-street for collections of the sort is not wholly adequate; but the Institute is now in possession of large premises, and in the course of time this difficulty should not prove insurmountable. The Institute possesses one of the most complete architectural libraries in the world. It is a sort of Mecca for the travelling European scholar. The trusteeship of the Burlington-Devonshire collection of drawings has added to its renown. It is therefore valuable not only as a pecuniary asset, but also as a possession which increases the prestige of British architects abroad.

The Aftermath of the Strike.

WHEN the history of the coal strike comes to be written those capable of serious thought may well ask themselves two questions. (1) Was it worth it? (2) Is striking the best means of airing grievances and obtaining redress? It is impossible to gauge the loss of wages incurred by reason of the strike. Workpeople all over the country were affected, a period of improving trade was squandered, and work was driven out of the country. This much, however, can already be proved: the number of working days lost by the miners in March alone was 23,900,000. Take an extreme minimum wage of four shillings a day, and this represents a loss in wages in this trade alone of 4,780,000*l.*, and the sickness, provident, and other funds are depleted. During the whole of last year 931,000 workpeople were involved in disputes, and 10,247,100 working days were lost. This was bad enough, and compared with 508,538 workpeople and 9,722,800 working days in 1910; but the first three months of this year already exceed the figures for those bad years, as 1,094,855 workpeople have been involved in disputes and 27,867,400 working days have been lost. The trade of no country can long bear such a strain, and the workpeople themselves are the first as well as the last to suffer. They suffer months after a strike is terminated. When all is said and done everybody must now see that the miners' grievances were capable of being adjusted by peaceful measures; that minimum wages in abnormal places would have been secured without a capital expenditure of nearly five million in wages.

The London Society.

WHILE no signs have been given of the corporate existence of the London Society, we have reason to believe that the enthusiastic meeting held in February last will be followed in due course by other indications of life. On such a question as the site for the London University the Society might express an opinion, while preparing itself for more general activity concerning the beauty and well-being of the metropolis. The sooner the executive show vigilance in the affairs of the moment the quicker will support be given by those who are hovering now on the brink of membership.

And the Cockburn Association.

WE may turn to Scotland for an object-lesson in the cause of conservation, architectural propriety, and city development. While various societies have been formed in London and have apparently become defunct, the Cockburn Association of Edinburgh has steadily maintained its influence. Lord Cockburn, who advocated in 1817 the "respectable and organised resistance of municipal power," wrote as follows:—"I do not mean to recommend perpetual agitation. What I want is to encourage the formation of correct opinions and of a right spirit over the community, so as to secure the existence of a general and intelligent attachment to what is essential to the City. If devotion to the beauty of their town was known to be a part of the nature of the inhabitants, it would operate preventively and would very rarely need to be called into action." To achieve such objects the Cockburn Association was instituted in 1875, the year following the publication of Lord Cockburn's "Memorials and Journals." The subscription for life is one guinea and for a year half-a-crown, the amounts being small in order to attract a large membership and so that public opinion may be fully represented. (The minimum subscription to the London Society—for Londoners—is one guinea per annum.) A list has been published showing the occasions on which the Cockburn Association has taken action in Edinburgh and the neighbourhood. The last recorded action is dated 1910, when Mowbray House in the High-street was purchased by public subscription organised by the Association.

Indian Native Craftsmen.

AMONG the many problems which will arise during the development of Delhi as the Indian Capital none is of more interest than the question of tradition. It will be a great pity if those who have the subject to consider do not contrive to effect a happy combination between Eastern and Western ideas. We understand that Lord Hardinge is in favour of an Oriental style of architecture for the new Government Buildings, and, while it will doubtless be possible to evolve designs in sympathy with the local necessities, the native population must be prepared to concede much to the European advisers who have been called in to give the results of their knowledge of advanced methods of construction and of the principles of planning. But, whatever proposals may be made as regards design and planning, the enterprise will not be successfully carried out unless the native craftsmen of India are employed extensively in the execution of the buildings. That these craftsmen exist, possessed of insight into the past and equipped with individual resources uncommon among workmen in more "civilised" countries, is an established fact, and it will be to the credit of all concerned if they are given the opportunity to prove their skill.

The York House Water Gate.

WE must cordially endorse Miss Sophia Beale's suggestion that some of the original effect should be restored to the York House Water Gate by excavating the ground in front of it and forming a pond with aquatic plants and waterfowl. Ever since the construction of the Embankment this architectural gem has been shorn of its dignity by the raising of the surrounding levels, and we think the present suggestion for disengaging it so admirable that it only requires to be placed before the London County Council, whose sympathy with bygone London has been indicated in many instances, to secure its prompt adoption.

THE UNIVERSITY OF LONDON, GOLDSMITHS' COLLEGE.

At the Goldsmiths' College, New Cross, S.E., a number of short courses in engineering and building subjects are to be given during May and June. As these classes are not connected with any definite course, except as to surveying, any student may join any class. Further particulars will be found advertised in this issue.

THE EXHIBITION OF THE INTERNATIONAL SOCIETY.

THE International Society would seem largely to restrict its exhibitions to the display of the work of French and English artists. The present show is a little inconsequential, but it is none the less interesting. We do not find, as other critics have found, any fault with the hanging. If the juxtaposition of one picture with another does not always appear quite logical, yet the walls are so little crowded that the relation of one picture to another is never obviously harmful. The exhibition is in its way rather an affair of threads and patches; it covers a large area of artistic effort, and it leaves the impression of a medley of patterns. But each pattern is individual, so individual indeed, so established by tradition and reputation, that the hanging, after all, matters little. A Millet, a Courbet, a Pissarro, a Manet, or a Monet cannot very well be crowded out, however multitudinous the other pictures. We cannot blame the International Society because they have not provided us with the highest masterpieces of these artists; that would probably be beyond the effort of any Society. In view of the reception of recent artistic manifestations it is a little difficult to understand the antagonism which Manet and the men of his day had to withstand or sink under. In Paris the most untamed *fauve* of to-day looks upon a Futurist picture and proclaims himself a classic. He proclaims it regretfully, be it said, and with an air of chastened regret. The contemporary reception of these older men, its wrong-headedness, would seem to have put fear into the hearts of later critics; to-day at least so far from condemning work which does not fall within a certain official category there is a tendency to rush to the other extreme, a desire even to welcome rubbish so long as it has a theory tacked on to it. However this may be, one of the outstanding features of the present exhibition is the work of Mr. Walter Greaves, two full-length portraits, for which places of honour have been found in the Octagon and Large Galleries. These portraits stand the test of their prominent placing—they are dignified, sincere, and vital works. Neither trade booming nor critical depreciation (for we regret to observe that the merit of Mr. Greaves is only reluctantly conceded in certain quarters) can affect their direct and honest appeal to all unprejudiced persons. Mr. Greaves's art is wholesome in its sincerity and as remote as possible from the quick adaptiveness, the felicitous eclecticism, which has brought so much modern work into transitory prominence and fame. The two examples of Millet are certainly much below his best work, and do not suggest either in painting or feeling the joy which was his own in depicting the soil and the peasant of the soil. The two Ribots are more characteristic of the artist, and the Place du Théâtre Français of Pissarro is one of his most familiar works. What are we to say about Mr. Strang's portrait of Mr. Festing Jones? We like his processional picture, "Laughter," much better; it suggests that this artist's talent for precision and unvarnished statement might be usefully employed in a scheme which aims more particularly at decoration. Maurice Denis in "La Plage" occasions pretty much the same opposition in the mind of the spectator as Mr. Strang's "Laughter," although for quite opposite reasons. Both artists work under the spell of a more or less personal convention, and the insistence on the convention, in either case, becomes a little irritating. "The Mother's Kiss" of Carrière is a typical work in which we feel that the manner of the artist (the Carrière convention is sufficiently well known) assists the interpretation of the subject which could not be expressed so subtly in any other way. Mr. Alexander Jamieson shows in "La Pavillon Français, Trianon," one of

his finely vigorous compositions, which brings building, trees, and water into harmonious effect. The work of Gauguin, Alfred Stevens (the Belgian artist), Mr. Lavery, Mr. Charles Shannon, Mr. Ricketts, Mrs. Betty Fagan, and many other notable artists is represented at the exhibition.

THE ROYAL INSTITUTE LIBRARY AND SOME OF ITS CONTENTS.

THE usual fortnightly meeting of the Royal Institute of British Architects was held on Monday, at No. 9, Conduit-street, Mr. E. Guy Dawber, Vice-President, in the chair.

Deceased Members.

Mr. H. T. Hare, Hon. Secretary, said it was with regret he had to announce the decease of the following members:—Mr. Richard John Macbeth, elected a Fellow in 1906; Mr. John Bevan Phillips, Associate, elected in 1884; Mr. Henry Shackleton, Associate, elected 1906; and Mr. Edward Ashby Smith, Licentiate. Another matter which ought to be mentioned was the death of a distinguished architect, who, although not a member of that Institute, was known to many of them—he referred to Mr. E. A. Kent, of Buffalo, New York, who was lost on the *Titanic*. Mr. Kent was a frequent visitor to Europe, and was present at the last Congress, also at the Town Planning Congress, and at the Congress in Vienna. He was sure they would all feel that some expression of regret at his death ought to be transmitted to his sister, who was his only relative.

The Chairman said he would like to add just a word in regard to the sad death of Mr. Kent. There were a great many members of the Institute who knew him quite well. The deceased was the very best type of the American gentleman; he was very keen about his work, a great traveller, and deeply interested in English architecture, and he was sure they all felt the deepest sympathy with his sister.

The resolution was carried in silence.

The Chairman then formally welcomed Mr. Harold E. Moss and Mr. Richard B. Ling as Associates.

Mr. C. Harrison Townsend then read a paper on "The Royal Institute Library and Some of Its Contents," the following being an abstract:—

"We are happy in possessing a considerable number of original architectural drawings, either designs, or sketched or measured drawings of existing buildings, in many cases executed by men of note, and ranging from, say, Scamozzi, in the XVIth century, to Burges and Nesfield of our own time. Thinking that the very existence of much of this material must be unknown to most of us, it occurred to me that it might be useful to lay some of it before you to-night.

Belonging to the Salvin collection are five valuable sheets of drawings which, there is every reason to believe, are from the hand of Inigo Jones. Two of these represent a proscenium designed, in the one case, for the masque of "Juno's Court, 1633," and, in the other, for the "Queen's Masque of Indianos, 1634."* The latter of these was, however, I find, actually used for the performance of Davenant's Masque of the "Temple of Love," in 1635.

In the Crace Collection of "Views of Old London," in the British Museum, is a series of four prints engraved by Loggan, representing four triumphal arches thus described:—"Arches erected for the entry of King Charles into London on his Restoration, April 22, 1661." Of these we have in the Library the original drawings,* about the same size as the engravings, and executed in light ink, with an Indian ink wash, though the engravings vary somewhat from the originals.

We now come to a remarkable volume consisting of 120 drawings by some of those draughtsmen of the late XVIIth and early XVIIIth century, who, I am afraid, come within the category of those lately described by Professor Blomfield as "industrious builders of 'Châteaux d'Espagne,' indefatigable and unprofitable designers in the air."

In this we find some good drawings of a scenic and barocco design by Panini, known as a painter of the Campagna and of Roman ruins, by whom the Institute possesses an oil painting of the Colosseum on its walls in the Council Room. By Pierre Puget, who was not only an architect and a "great sculptor" (as he is termed by Mr. W. H. Ward), but a painter also, and was, on these three qualifications, called by his flattering admirers, in his own day, the "Michelangelo of France," there are also some examples.

John Talman, son of the elder Talman, who designed Chatsworth for the first Duke of Devonshire, was an architect of considerable note in the early part of the XVIIIth century. Before practising he travelled to Rome with W. Kent, and in the present volume the outline views of the Rhine, the Danube, and the Wael bear his initials. It also contains some drawings in brown ink of stained glass in the church at Upton, the draughtsmanship of which shows a curiously good feeling for such work, considering the period (1708) of its execution.

In a folio volume of drawings of Whitehall Palace, an early owner, the Rev. George Mortimer, has inserted the following note:—"We have always been given to understand that these are the original drawings of Whitehall Palace." The book, however, contains manifestly the drawings made for Kent's edition of the works of Inigo Jones (1727) by Fliteroft, who was not only an accomplished and delicate draughtsman, as these pencil drawings show, but an architect of note in his day. It was he (and not Hawksmoor to whom it is usually assigned) who was the designer of St. Giles-in-the-Fields. The original drawings of R. Wood's "Ruins of Palmyra" and "Ruins of Balbec or Heliopolis" are contained in two large volumes of very laboriously careful sketches. The drawings, elaborated from Dawkins' rougher sketches, by J. P. Borra, are as we know them in Wood's volumes. The latter refers in the Balbec volume to Dawkins as having "made the sketches and measures" for the work.

In 1784 George Hadfield received the first gold medal for the travelling studentship at the Royal Academy. He made use of his tour abroad to make measurements and collect data for the restoration of the Temple of Fortune at Palestrina, or Præneste, near Rome. He associated with himself in the work Sig. Colonna. The restoration scheme is shown in six beautifully-tinted drawings, one of which, full of minute detail, is no less than 8 ft. long. It is interesting to know, by-the-bye, that Hadfield may be further remembered as the architect of a considerable portion of the Capitol of Washington.

The Library possesses the original water-colour drawings by James Stuart from which the engravings were made for Stuart and Revitt's "Antiquities of Athens," and also a small volume of his sketches and MS. notes. The latter probably covers some of the ground of Stuart's visit, *viâ* Holland, to Rome in 1742, and contains fifty-five pages of sketches, in many cases landscapes, drawn, with some breadth and appreciation, in pen-and-ink.

There are in the Library nine large drawings by Hardwick—plans, elevations, and sections of the Pantheon from his own measurements. Another large volume by him is a scrapbook in which have been mounted sketches and measured drawings, most of which he made in 1778. These include several sheets of the west end of St. Peter's, the Colosseum, and the Villa Madama. This conscientious, but not very inspired, book is the work of the father of the better-known Philip Hardwick. He was a pupil of Chambers, and obtained, in 1768, the first silver medal offered at the Royal Academy for the class of architecture.

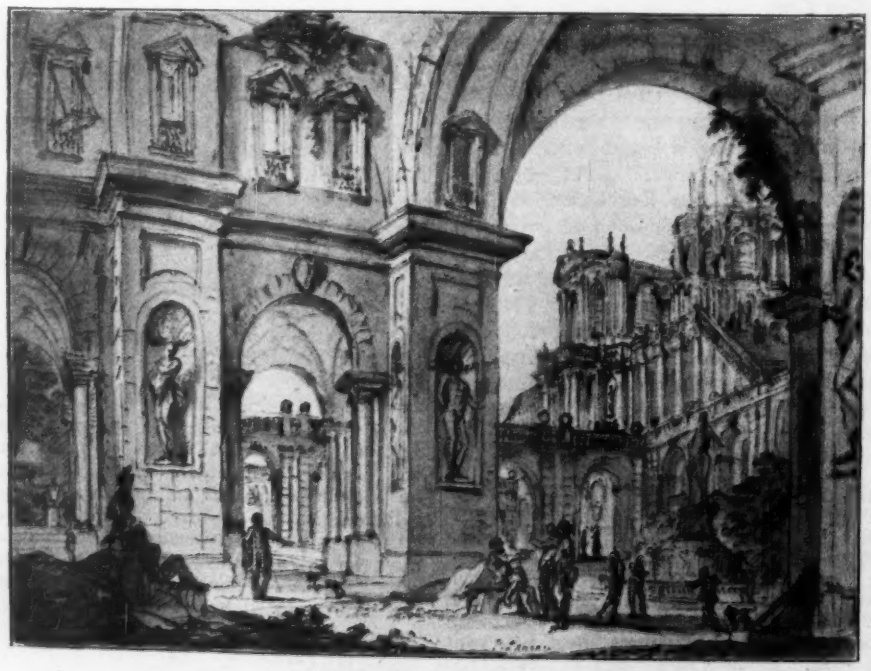
To those who are interested in the work of the late XVIIIth century, when the influence of the Adam brothers was supreme, the book of sketches of ornamental friezes from original models in the possession of Joseph Rose will appeal.

By Sir Robert Smirke (of whom, as you know, we possess a bust, which is in the Common Room) we have eleven large water-colour drawings, executed during his travels in Naples, Sicily, and Greece, between 1801 and 1805. These include a good drawing of the Temple at Ægina, labelled as the Temple of Zeus, but now identified as the Temple of Athene.

There is a volume by Henry Parke, an architect of the early XIXth century, whose name should be known to members of the Institute as the designer of the medal which was given by his brother-architects, in 1835, to Sir John Soane, and the use of which is allowed us annually for the Soane Medallion. Parke's widow presented these 500 and 600 drawings, which are the result of his tour through Italy, Sicily, Greece, and Egypt, in 1824. Many of his measured drawings were done in conjunction with his fellow-architect, Scoles, of whom there is a framed portrait on our walls.

One of the original founders of the Institute was John Goldicutt, who was born in 1793 and died in 1842. By him we possess about 300 sketches and 100 designs and projects of his own. Many of the sketches are of Pompeian decorative work, probably done for his "Specimens of Ancient Decorations from Pompeii," published in 1825. We have on the walls of the Institute one of his drawings of unusual interest. It is the very elaborate transverse section of St. Peter's, showing, with much careful expression, the decorations and

* See the *Builder* for June 18, 1910.



View of Court. By Panini.

paintings, and was submitted by Goldicutt to Pius VII. The Pope, in recognition of its merit, presented the artist with a special gold medal.

There is a volume of strongly-coloured drawings by George Wightwick (1802-1872), an extraordinarily voluminous author on things architectural. They are the originals of his "Select Views of the Roman Antiquities," lithographed by T. N. Baynes, and published in 1827, and are useful in showing us the unexcavated state of the Colosseum and the Forum. Another volume of his is a scrapbook of sketches, many of which are measured work done in Italy. We have a further volume to which Wightwick gives the somewhat imposing title of "My Liber Veritatis." It contains drawings of vases, and sketches in France and Venice, and also the rough sketches for the above work, and, finally, this most prolific of architectural draughtsmen has left behind him a huge collection of large and very vigorously-coloured drawings which had served to illustrate his many lectures.

A volume presented by Professor Donaldson, in 1864, contains some water-colour sketches, done between the years 1816 and 1819, by Joseph Woods, who, it is interesting to note, was a founder, in 1846, of the London Architectural Society, of which our Institute is the lineal descendant. The drawings are not very good, but those of the Treasury of Atreus and the Lion Gate at Mycenæ are interesting as showing us the buildings before their exhumation.

A curious series of sketch and note books—no less than sixteen volumes of closely-written and minutely-drawn notes—are the result of John Wolfe's three or four years of travel in Italy, Greece, and France in 1820. It was during this tour that he and Charles Barry became fellow-travellers, and began the intimate friendship which lasted through their life and is perpetuated in the name borne by Sir Charles Barry's son — our distinguished Honorary Associate, Sir John Wolfe Barry.

Of Elmes' work we have a large collection of drawings and designs and full-size and other details. There are, mostly drawn by his own hand, several interesting alternative treatments of St. George's Hall, both interior and exterior. Amongst his drawings are three large tinted perspectives (submitted in two cases in competition), but two of these, I think, evidently show the hand of Thomas Allom, whose vogue as a "perspective colourist" was so great in the middle of the last century. I take it that this is Elmes' competition design submitted for the Liverpool Assize Courts (p. 475).

The name of T. L. Donaldson seems to carry us very far back, for, though he only died three years before Nesfield, we have two volumes of sketches done in Greece and Rome as early as 1819 and 1821. Curiously enough, one of these is a large volume of sketches of Gothic work, to which one would not have imagined he had much leaning.

A donation to the Library by Mr. C. E. Sayer, made some three or four years ago, was a volume by Alexander Rocs. It contains many beautifully-executed little drawings of coloured decoration. Some forty or fifty of these are of Pompeian walls and ceilings, but, unfortunately, a large proportion of the remainder are without any indication as to their source.

Decimus Burton, the architect of the Wellington Arch, and a former Vice-President of the Institute, presented to the Library the year before he died (which was as recently as 1881) forty-two drawings of classic relief ornament, stone or marble, carved decoration of architraves, strings, etc. They are drawn, and well drawn, on tinted paper in black crayon touched with white.

By William Burges we have three scrapbooks in which have been inserted drawings of original designs of stonework and of silver and goldsmith's work, domestic and ecclesiastic. The books dealing with goldsmiths' work contain designs of book-clasps and metal bindings, the mounted glass bottle, and a drawing of the equally well-known cup with the twenty-four grotesque animals on the rim. A later acquisition, through the generosity of Sir W. Emerson, is the pocket-book lately presented by him to the Institute. It consists of thirty-six vellum pages with sketches in brown ink, annotated in Burges' usual almost black-letter script, and still contains, interestingly enough, his own crowquill. The contents are most miscellaneous—animals, landscape notes in Italy, sketches at the theatre, and studies for portions of his own designs. There is an alternative design for the upper part of the tower for his proposed Law Courts, introducing, as features of the carved decoration, in his characteristic manner, the seasons, months, and planets.

There are four volumes of a modern architect whose influence on the architecture of our own time has, in the opinion of many, not yet been fully recognised. Some of the evidences of the amazing fertility known to many who, like myself, were brought into close contact with William Eden Nesfield are to be found in the four volumes of his sketches which the Institute possesses. One of these volumes—a scrap-book—gives an opportunity of tracing the development of his talent by sketches dating from 1846, when he was only eleven years old. It contains boyish drawings, eventually improving in merit as he profited by the teaching of J. D. Harding, many of whose characteristic strokes are to be noticed as corrections of his pupil's work. The third volume contains many English subjects, dating apparently from 1855 to 1858. But the fourth is a book of great interest, being mainly the material eventually utilised for the well-known book, "Specimens of Mediæval Architecture in France and Italy," published in 1862. The illustrations were drawn on the stone by Newman, and, though occasionally just a little hard in draughtsmanship, show the lithographs to be particularly faithful and accurate to the original.

In 1867 there were presented, through Professor Donaldson, by Texier himself (a Gold Medallist of the Institute in 1866), five volumes of sketches and details, in gold and colour, of mosques in Constantinople, one volume dealing specially with St. Sophia. To the latter Professor Lethaby refers in his "Sancta Sophia."

The volumes of Devey's sketches are somewhat disappointing. Not indeed that they are otherwise than beautifully drawn and touched with colour in quite a charming way, but that they happen to deal principally with one branch of his sketch material only. The majority of the drawings are of chimney-tops, and, though they cover a great deal of ground and comprise notes made of these throughout England and in Germany and Holland, the volumes are not of very great interest. There are, however, a few sketches of French towns, such as Harfleur, Rouen, etc.

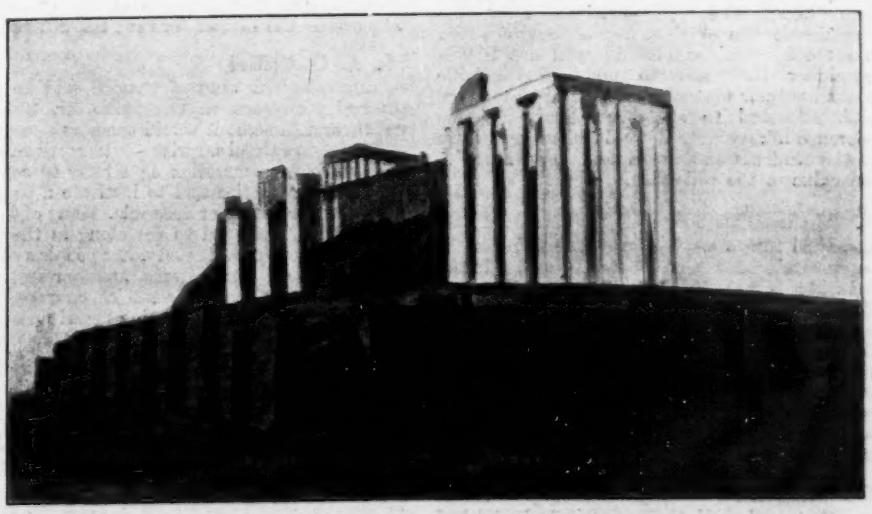
A collection of very beautiful drawings is contained in two volumes, one of twelve sheets and the other of thirty-three, of the coloured decorations of Norfolk and Suffolk churches. The larger volume deals with the well-known series of screens, and the smaller containing principally roof decoration. These drawings, which were executed by G. Y. Wardle, with very charming feeling for his subjects, show a delicate and an accurate appreciation of the work of that great school of English art of the early XVIth century which has not yet received its meed of recognition."

Mr. R. Phené Spiers,

in proposing a vote of thanks to the author, said they were greatly indebted to Mr. Townsend, who had brought to their notice a very large number of drawings, only a few of which he (Mr. Spiers) was previously aware of. Some three or four years ago Mr. Townsend pressed him to undertake the same task, but he was pleased it had been left to that gentleman, because it had evidently been a great delight to him to get at the facts, and he had approached the subject in a slightly different form to what he (the speaker) would have done. The author commenced with John Shute's book, which was published in 1563. He (Mr. Spiers) remembered when the book was first brought into the Library, and he had consulted it very often since, and he had no doubt many other members had. He was very glad to hear that a facsimile of the book was going to be published so that it could be in the hands of every student. There was a great deal more information to be obtained from that work than could be obtained simply by looking at it in the Library. A few years later, in 1577, another book which became very famous was brought out by Jean De Vries, of Antwerp. He believed there was a copy of the work in South Kensington, and there was also one at the British Museum. Unfortunately, the Institute did not possess a copy. The author had referred to the South Kensington collection of architectural drawings, and had expressed the hope that the Victoria and Albert collection and their own might exist side by side without antagonism. The fact was, it was very difficult for the Institute to find places for specimens, and for that reason he had sent 1,400 sheets to South Kensington. If the Library was to be of the value it might be to students they must make some arrangement by which the collection could be separated and catalogued and be made easily accessible.

Mr. E. F. Strange

seconded the vote. He remarked that the Institute's collection was, to some extent, the same as that at South Kensington, which was under his (the speaker's) charge. Nothing had interested him more than the way in which the author had touched on all sorts of points in connexion with the collection at South Kensington, which he hoped was now rapidly becoming of even much more than national importance. Reference was made to John Yenn, who worked with Chambers, and Mr. Townsend said he was unable to ascribe the drawings which were in the Institute to either of the two artists. If the author were to pay a visit to South Kensington he could clear that difficulty up. Last year they were fortunate enough to obtain a large number of drawings by John Yenn. Yenn, who towards the end of his life was the Treasurer of the Royal Academy, designed quite a large amount of furniture among other things. As far as he could ascertain, he never built a building of any importance, although he designed a great many villas; but he designed a great deal of furniture and a great deal of decoration. Mr. Townsend had referred to a very beautiful collection of drawings of East Anglian rood-screens by Wardle. He (Mr. Strange) did not know where the Institute obtained them from. It was an interesting point that at South Kensington they also had a very considerable number of those delightful drawings which he was commissioned to make by the old Museum in 1865, 1866, and 1867. Whether they did not go on employing him he did not know, but apparently he went on for his own pleasure, and made some more, which were now in the possession of the Institute. If the Institute felt inclined to be



Temple of Jupiter, Athens. From a Water-Colour Drawing by Sir Robert Smirke, in the Institute Collection.

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generous and transfer them to his charge at South Kensington he would be extremely grateful. That question of early XVIth-century English decoration was an important one. He had tried to draw attention to it from time to time, and systematically at South Kensington during the last few years he had encouraged people to make very careful drawings of painted rood-screens which they had not got in the collection, and they had also bought what they could, by which means the collection was being steadily increased. There need be no question of any rivalry between the Institute and South Kensington. They did not desire to rival or to compete with anybody, but it was their plain duty to carefully inspect everything that was offered them and to go into the market and buy what they considered worth purchasing. They had the space to accommodate the drawings, which were catalogued and every one was topographically indexed, which was much more important to the student. Their topographical index at the present moment contained something over 40,000 references, and they could do for the Institute in the matter of architectural drawings far more than they could do for themselves, even if they spent as much money on their collection as did the authorities at South Kensington. It was creditable to the highest degree that the Institute should possess such an important and valuable Library as it did, but it would be much more valuable if its importance had been realised earlier. The opportunity of collecting old drawings and ornament and architecture was very quickly passing, and within a few years it would be almost impossible to go into the market and buy them. The Institute must not grudge the public those drawings that some of their kind friends took the trouble to collect and give to South Kensington. They were their drawings all the time, and the only thing that resulted from their being sent to South Kensington instead of to the Institute Library was that they had to share the use of them with other people.

Mr. Rudolf Dircks

said there was no reason to fear that the department of the Library with which the author had dealt would stand still, notwithstanding the energy of South Kensington, although he thought there was a fear that the collection would outgrow the present space. With regard to their collection of books, he ventured to say that the bibliophile who was also an architect would find very few shelves in the Library which did not contain something of interest and note. He could only hope that in the course of time some liberal benefactor might endow the Library with a sufficient sum to enable the Committee responsible for the book collection to deal more adequately with it.

Mr. W. H. Ward

said that Mr. Townsend had only touched upon the drawings in the Library, but there were a great many other treasures in the way of illustrated books, engravings, etc. The paper would have done great service if it gave those who were responsible for the finance of the Library some idea of its needs. The Institution of Civil Engineers spent something like 600*l.* per annum on books, nearly half of which went towards binding, and the Surveyors' Institution spent about 300*l.* The Institute spent the magnificent sum of 150*l.* a year, out of which about 40*l.* went for binding, and out of the remainder they had to purchase duplicate books for their loan library. If they could get 150*l.* allocated to spend on books for the reference library only it would be a great boon to the students and would add very much to the value of the collection.

Mr. Herbert Batsford

suggested that a more appropriate title for the paper would have been "Some Drawings in the Institute Library." Mr. Townsend dismissed the books with a few paragraphs, although he was sure it was not his intention to belittle the Library as a collection of books. He would like to see a paper by the librarian dealing with the splendid collection of books which the Institute possessed, which included the greatest folios that had ever been published on the subject of architecture.

The Chairman

said that on behalf of the Institute he wished to express his thanks to Mr. Spiers for his gift of drawings by the late Sir Henry Layard. With regard to the remarks of Mr. Ward, he could assure them that the Council of the Institute were fully alive to the importance of the Library, and they hoped shortly to be able to do more in that direction than they had done in the past. He had been greatly impressed by the marvellous beauty of the draughtsmanship shown in the drawings and the wonderful accuracy of the perspective, and if their students were to study those drawings they would see that some of the present-day draughtsmanship was not to be compared with that of the men of the former centuries.

Mr. Townsend

briefly replied, and acknowledged the help he had received from Mr. Dircks, the librarian, Mr. Keith, the assistant librarian, and Mr. Spiers. With regard to the drawings of Norfolk screens, probably the explanation of Mr. Strange possessing what he thought to be an absolutely unique set might be explained by the fact that the drawings in the Institute Library were manifestly tracings. Mr. Batsford had criticised him for belittling the books, but those who knew the Library as well as he (Mr. Townsend) did would know that to be far from his intention. The books in the Library were a huge subject, and he had preferred to take the lesser in his paper.

It was announced that the next meeting would be held on Monday, May 6, being the annual general meeting.

THE SOCIETY OF ARCHITECTS.

THE sixth ordinary meeting of the Society of Architects for the Session 1911-12 was held at No. 28, Bedford-square, W.C., on April 11. Mr. Percy B. Tubbs, F.R.I.B.A., Vice-President, took the chair, in the unavoidable absence of the President.

The following candidates were elected as members:—Mr. F. A. Browne, Springfield, Chelmsford; Mr. T. Foley, Beverley, Yorks; and Mr. G. S. Valentin, London.

Mr. C. McArthur Butler, F.C.I.S., Secretary of the Society, then opened a discussion on "Some Principles of Professional Practice and a Code of Ethics."*

Mr. R. G. Lovell,

in moving a vote of thanks to the Secretary, congratulated him on the result of his efforts in calling attention to the matter before them. The idea of forming a Board of Professional Control was a very excellent one, provided an assurance was forthcoming that it could be got together promptly. If, with the object of gaining greater unity, they were to wait for the co-operation of all the allied societies, the Royal Institute, and the other institutions mentioned, he could easily foresee that the matter would drag on for as long as their previous negotiations with regard to Registration. The Society prided itself upon the fact that it was the forerunner of Registration, and he saw no reason why they should not adopt the same attitude with regard to the suggested code of ethics, and he thought the Council would be acting in the best interests of the profession by pushing the matter forward immediately.

Mr. A. O. Collard,

in seconding the vote of thanks, said he had listened with keen enjoyment to Mr. Butler's paper, and thought it would come as a surprise—possibly a painful surprise—to many architects that any such suggestion as a body to control professional practice and to institute a code of ethics was necessary or desirable. Many of them, he assumed, managed to get along in the profession without treading on other people's corns, and without committing any professional enormity, possibly for want of courage, but more likely by reason of a high moral rectitude. There were two broad divisions of misdemeanour—that against a brother professional, and even worse conduct against the public. Regarding the latter, there was the Common Law to deal with such matters, and he did not know whether Mr. Butler suggested that the Common Law should be set in action against offenders by the proposed Board or whether the latter was merely to control the action of members of the profession in connexion with their own brethren. He wondered whether the architectural profession was on all fours with those other great professions of law and medicine. He agreed that public attention was sometimes drawn to cases in which members of those professions were seriously dealt with, but he thought that in nearly every case it was for offences against the public, so that he did not know whether they could base their reason for wishing for such a controlling body, on the professions of law and medicine. Mention had been made of a schedule of the principles of practice and a code of ethics. Was it suggested that there should be two distinct schedules? Was not a schedule of the principles of practice the same thing as a code of ethics? He thought with Mr. Butler that it was a very doubtful advantage to have any fixed charge whatever, and that it would be better to leave it open so that a man could charge whatever he thought himself worth. There should be nothing to prevent a man charging 10 per cent. if he thought he could get it, as they were well aware that in certain special work a man might have trained himself thoroughly and the value of his work be worth two or three times as much as the ordinary scale gave him. It was rather severe on young architects to suggest that they must not compete with regard to fees or undercut to secure work. He knew that some of the public thought they had a perfect right to offer a young architect less than they would an older man, although he might be the more skilful designer, and he did not see how that could be met. It seemed a little hard that young architects should not be allowed to work at a lower figure, bearing in mind the fact that many of them were able to work at home, and so avoid the heavy charges which some of them had to bear before they made a penny. Some hard-and-fast line should be drawn to define what were and what were not honorary services. It had often happened that an architect gave his services gratuitously, but after his expenses had been paid there was really very little difference. A man should not be able to obtain work on apparently honorary terms, doing some other man out of the work, and yet reap some benefit from it. He noticed that expert services should command payment proportionate to the responsibility and difficulty involved, but who was to be the judge of that value and responsibility? Naturally, they themselves knew what it was worth, but was it suggested that architects should be the judges of their own value? That was the point upon which the Courts came into conflict with them, and was also the reason why the Courts sometimes ignored the Institute's scale of charges.

Mr. W. H. Seth Smith

said they had met to consider their moral obligation not only as individuals, but in their corporate capacity as a class of public servants, and this not merely from the point of view of expediency or custom, but as he understood the author of the paper to imply, from the loftier standpoint of character as formed on the universally acknowledged but little obeyed axiom of doing to other men as we would they should do to us. This principle might be interpreted thus:—We do not desire to benefit ourselves at the expense of the interests and rights of others, whether clients or builders, *e.g.*, we will not use our corporate powers (statutory or otherwise) to restrict the freedom of any man to employ any amateur instead of one of our profession if they prefer to do so. He did not know of any greater want in the architectural profession than a well-written manly book on this subject, approved by the Councils of the various societies, which could be put into the hands of every student as a text-book on this vital question. He claimed for the British professional unions (as distinguished from trade unions) that the vastly-improved public esteem and confidence or status they enjoyed is due to their having in the past laid down and pursued a policy based, broadly speaking, on the following lines:—

(1) They have endeavoured not to limit the freedom of individual members beyond the necessary protection of the equal rights of his fellow-members.

(2) They have never attempted to force employers to remunerate their services at a fixed or unreasonable rate. The cynic might reply that they have not been strong and united enough, but the fact that fair payment has been forthcoming in spite of this corporate disability is proof of their sweet reasonableness!

* See our issue for April 12, p. 421, for an abstract of the paper.

(3) No one was granted membership whose training and skill was below the standard the Society set up, and this educational policy was diligently organised and improved.

(4) A standard of moral etiquette was demanded. No commission was to be accepted from third parties. Members were expected never to depreciate the qualification of their colleagues or to tout for employment where others of their calling were retained, etc.

(5) No limitation of the numbers of members or of their hours or output of their work was ever attempted. It was realised that the man of exceptional talent and endurance was entitled to translate his superior powers into proportional wealth; or that the man with heavy domestic responsibility to burn the midnight oil.

(6) No inducement to join the Society was offered other than the advantage that knowledge gives and the fact that corporate action in resisting injustice was more powerful than individual effort.

(7) The question of remuneration was the last point dealt with, for the reason that to ensure the confidence of employers, and the consequent increase and permanence of employment, freedom of contract was necessary, and the public must be convinced that it served their interests best to employ those who had strenuously fitted themselves to be experts, and whose claim to the profession was acknowledged by their own class—their rivals.

It was assumed, and he thought justly, that clients were willing to pay reasonable fees if the advantages were clearly commensurate. The policy was, in short:—

(*a*) To benefit the public by giving the very best of services.

(*b*) To benefit their members by fellowship and by due preparation for professional duty, and thus enable them to reap the confidence, work, and pay which invariably result from such a policy.

(*c*) By organised resistance to frustrate attempts on the part of individuals, corporations, or of the Legislature to impose unfair or unjust conditions on their members. Should such moral or legal resistance be abortive, the obvious and final resort was the corporate withdrawal of service. This weapon the medical profession had been obliged for the first time (this winter) to threaten to use, and architects, though not so immediately affected by democratic employment and democratic legislation, have had to adopt in a more limited degree by their recent agreement not to enter competitions under conditions unfair to their members.

Mr. Butler's suggestion that the R.I.B.A. Code, as presented in the *Kalendar*, was very meagre and insufficient, might, he thought, be admitted. Convinced and confirmed Registrationist as he was, he was not so sure that any Registration Act which they might, and he believed should, obtain before long, would enable them to make more public or to enforce such a code of morals as was suggested. The great value of statutory Registration would be, as Mr. McArthur Butler premises, the bringing of the at present detached architect under a commonly accepted code of architectural etiquette, but legislation directly or indirectly compelling any man to join a professional body would be a gross breach of the liberty of the subject, and should never be suggested in applying for a Registration Act. As Benjamin Kidd says, "Every party in the State, nobles, middle classes, and middlemen has endeavoured in its time to identify the State with its own interests. The quarrel of society with each of them in turn in the struggles of history has been that they have all endeavoured, when they held the State in their power, to exact from the community more than they were entitled to for services rendered in terms of social utility. To hold the community up for the most they can extract from it." Let them see to it that no tincture of this class selfishness laid them open to future censure.

Mr. Arthur J. Martin

(President of the Institute of Sanitary Engineers) said he was sufficiently in touch with the architectural profession to be interested in the matter. He thought he could take it that the interests of their two professions were identical. His opinion was the somewhat unconventional one that they should not lay too much stress upon the interests of their respective professions. After all, they both existed for the service of the public, and a code of ethics could only be justified so far as it protected the interests of the public. The great question appeared to him to be that no person should be at liberty to represent himself as an architect or engineer without possessing the necessary qualifications for the title. Personally, he could not see any reason whatever why an incompetent man should be at liberty to practise in either of these professions any more than he was able to as a solicitor, medical man, or dentist. In their professions, just as much as those he had mentioned, the incompetent man was a danger to the life and health of a large number of people. It was not a matter for the professions to determine, but one which the general public had a right to demand. What that qualification should be was another matter, whether it should be limited to those who had undergone a recognised term of pupilage, or what not, the guiding principle should be, not that the principal work should be restricted to a limited number of hands, but that it should enforce that minimum of professional qualification which was absolutely necessary in the interests of the public.

Mr. A. S. E. Ackermann

said he thought more attention might have been drawn to the professions of law and medicine, from which they might learn a very great deal from their experience. Some years ago he had had occasion to make inquiries of the British Medical Association in regard to the question before them, and he was astonished to find how deeply they had gone into what was more or less an unwritten law. The vast amount of work done by the British Medical Association had nothing to do with Registration, but was purely and simply moral persuasion, and, although their membership was but two-thirds of the whole medical profession, yet they were in such a strong position that if two practitioners who were not members of the Association had a difference which in the ordinary course of events would lead to the Law Courts, they would involuntarily go to the Association for the settlement of their dispute. Solicitors were tied down to certain maximum charges, and their interests were otherwise properly looked after, but they were not bound to charge the maximum fees.

Mr. A. Alban H. Scott

said that most of the discussion had turned on the question of architects' fees, which he thought a great pity, because architects usually looked upon their fees as a secondary consideration, and did their work for the work's sake. With regard to the remarks which had been made as to the principle of payment by commission being an immoral arrangement, no doubt it was an unhappy one, but the young architect, he thought, fully realised that his career would be made not by his financial income or by piling up the cost of the work, but by getting economical buildings for his client and making, and afterwards maintaining, a proper reputation. In the course of their work architects had to deal with specialists and structural engineers, and there was an undoubted tendency at the present day for everyone to more or less specialise, which meant professional unions. The aim of the paper seemed to be exactly the same as that of the labour market, namely, to get national federation. The legal and medical professions had it to a certain extent, and there was no doubt that professional combination had resulted in nothing but good both to the public and to the respective professions. Similarly architects would benefit by a greater professional unity.

After some remarks by Mr. A. Lawrence Cox, F.S.I.,

The Chairman

summed up the discussion, and said he personally hoped that a code of ethics would be adopted, and that the Council of the Society would appoint a Committee to inquire into the matter. The discussion that evening would be of the greatest possible assistance to them. With regard to illicit commissions being no longer necessary owing to the recent Act of Parliament, he, the speaker, thought it had made matters worse if anything, for as matters were originally only one man was considered to be in the wrong, and he was the receiver of the commission, but under the Act both giver and receiver were condemned, and so, as the lips of both were hermetically sealed, there was less likelihood than ever of such things becoming known.

A vote of thanks to Mr. Butler was then put to the meeting and carried with acclamation.

Mr. C. McArthur Butler said he would reserve his reply for the *Proceedings*.

RECENT WORKMEN'S COMPENSATION CASES.—II.

In continuation of our recent review of decisions under the Workmen's Compensation Act we have now to refer to a few cases which relate mainly to practice.

Termination of Incapacity.

In the case of Hargreave *v.* Haughhead Coal Company, Ltd., the House of Lords had to consider the case of a miner who, on February 18, 1910, met with an accident to his right eye which necessitated its removal. Compensation was paid to September 15, when the employers applied for a review. At the hearing, on November 12, it was proved that the man's incapacity had ceased and he was fit to resume his occupation as a miner, but that he had incipient cataract in the left eye which would subsequently incapacitate him from work; this cataract, however, was in no way due to the accident. It was also proved that his condition on September 15, when the payments were stopped, was the same as at the date of hearing. It was a Scotch case, and on these facts the Sheriff Substitute terminated the compensation as from September 15. The House of Lords held that the mere fact that the workman had lost one eye, increasing the risk of blindness, did not entitle the man to have the award kept open, and that the order had been rightly made. This case illustrates the inequalities of the Act, as it shows that, as applied, the test of capacity is hardly satisfactory. This becomes apparent if the above decision be compared with that of the Court of Appeal in Cory Brothers, Ltd. *v.* Hughes, noted the *Builder*, September 15 last. A man had sustained an injury to his left hand, which however did not eventually prevent him from using it in certain forms of light work. He was given light work, but some time afterwards was prevented from continuing it by reason of heart disease wholly unconnected with the accident, yet he was awarded compensation. The Master of the Rolls said: "I cannot bring myself to doubt that the man is disabled in the labour market by reason of the accident from earning wages which even with his bad heart he might otherwise have been earning at the present moment." The distinction between the two cases is that in the latter case the man had never recovered his earning powers, whereas in the former case the man was held to have done so; but having regard to the position of a one-eyed man in the labour market since the passing of this Act, when all employers are afraid to engage him because if an accident happens to his remaining eye he will be entitled to compensation as incapacitated for life, the case is a hard one, besides being somewhat illogical, for if an accident occurs to the man's remaining eye his total incapacity will not be due to that accident, but to that accident plus the former accident, yet in such an event the original accident would not be regarded (see Noden *v.* Galloways, Ltd., the *Builder*, November 24, 1911). In such cases to a layman it would appear that a nominal award of 1d. to keep the claim alive would be the proper order, but, as the law stands, in certain circumstances it favours one-armed men more than one-eyed men. On this subject the case of Ball *v.* William Hunt & Sons, Ltd. (the *Builder*, April 7, 1911), may also be consulted. In that case a second accident rendered obvious a loss of sight which had occurred from a previous accident. The man's earning capacity remained the same, and the majority of the Court of Appeal held appearance in his class of employment, an edge tool moulder, not to be essential to employment. From the cases, however, it is quite clear that if the loss of an eye can be shown to affect earning capacity then the compensation should not be terminated.

Form of Award.

In Higgins *v.* Poulson a man was suffering total incapacity from an accident. His employers were willing to pay full compensation during total incapacity, and the County Court judge made an order for the weekly payments "to continue during total or partial incapacity, or until the same shall be diminished, increased, or redeemed in accordance with the provisions of the Act." This is the form of award provided by the Workmen's Compensation Rules, Appendix I., Form 24; but the employers objected to it on the ground that they were only willing to pay full compensation during total incapacity. The Court of Appeal held the award to be correctly drawn up, as this form

enabled it to be enforced as a County Court judgment. Should any change in the circumstances take place the course for employers to adopt is to apply for a review under Schedule I., par. 16.

Registering Memorandum of Agreement.

In Popple *v.* Frodingham Iron and Steel Company a man, on August 16, 1911, met with an accident, and on August 30 his employers agreed to pay him 16s. 9d. as compensation from the date of the accident, and to continue during total incapacity. On December 9, 1911, the workman applied to have a memorandum of this agreement recorded, but the County Court judge found that at that date the man was not totally incapacited, and he refused to record the memorandum. The Court of Appeal held that the agreement ceased to be operative when total incapacity ceased, just as much as if it had been an agreement to pay to a definite date, and the memorandum ought not to be recorded. The law under the Act of 1897 was different, and this case denotes the alteration made by the Act of 1906.

Varying Apportionments.

The Act of 1906 introduced an important reform in respect of awards made to dependents. Formerly these could not be varied, and often the money in consequence was not expended to the best advantage; but now by Schedule I., par. 9, where children are neglected or circumstances have altered, power is conferred upon the Court to vary the apportionment. This power has been exercised in Ivey *v.* Ivey, in which case the Court of Appeal held that where a widow died leaving an unexpended portion of compensation which was claimed by her next-of-kin, the Court had power to reapportion the sum amongst her children dependents of the deceased.

Correction of Award.

As regards slips or mistakes made in an award, in John Mowlem & Co. *v.* Dunne the Court of Appeal held that the judge has power to alter the award until it is signed and sealed under Rule 28.

Evidence.

In a claim by dependents of a deceased blacksmith who had died from sceptic poisoning, caused, as it was alleged, by an accident, statements made by the deceased to the employer's manager to the effect that he had a whitlow on his thumb were held by the Court of Appeal, in Tucker *v.* Oldbury Urban District Council, to have been rightly excluded, because dependents have a statutory right to compensation and do not derive their rights through the deceased; the deceased was no party to the action, and it was not shown that the statements were to the knowledge of the deceased, or, in fact, contrary to his interest.

ARCHITECTURAL SOCIETIES.

Birmingham Architectural Association.

At a meeting of the Birmingham Architectural Association on the 12th inst. the Vice-President (Mr. G. Salway Nicol) read a paper on the Association's visit to Holland. The great charm of Dutch buildings, he said, is due to the fact that they are such a complete expression of the character and ideals of the people. Their domestic work particularly has much to teach us in the simple and direct way they obtain their effects. For their more important buildings, such as the "Studhuis" at Middelburg, they generally employed a phase of the Gothic style directly inspired by similar buildings in Belgium, but at the same time the detail is full of native feeling. The Abbey buildings at Middelburg and the Town Hall and Church at Veere were shown by many sketches made by the members, and the great influence of Dutch work in England in the XVIIth century pointed out. The great attraction which Holland has for architects at the present time is largely due to its beautiful architecture.

Leeds and Yorkshire Architectural Society.

A general business meeting of this Society was held on Thursday, April 18, Mr. Sydney D. Kitson, M.A., F.R.I.B.A., in the chair. The Hon. Secretary, Mr. Wm. Whitehead, A.R.I.B.A., read the Report of the Council for the past year. The total membership of the Society on March 31, was 182, comprised of thirty-two hon. members, seventy-four members, and seventy-six Associate members.

The Hon. Treasurer, Mr. R. Fielding Farrar, presented a financial statement for the year, showing a balance of 57*l.* 19s. 1d. The report and balance-sheet were adopted on the motion of Mr. J. E. Braithwaite, A.R.I.B.A., seconded by Mr. Moreton.

The following officers were elected to serve on the Council for next session:—

President—Mr. A. E. Kirk, A.R.I.B.A.; Vice-Presidents—Mr. G. F. Bowman and Mr. J. F. Walsh; Hon. Treasurer—Mr. R. Fielding Farrar, A.R.I.B.A.; Hon. Librarian—Mr. W. Peel Schofield, A.R.I.B.A.; Hon. Secretary—Mr. Wm. Whitehead, A.R.I.B.A.; Members of Council—Messrs. W. J. Morley, F.R.I.B.A., C. B. Howdill, A.R.I.B.A., G. W. Smithson, A.R.I.B.A., J. C. Procter, A.R.I.B.A., G. J. Combs, A.R.C.A., Douglas Bowman (Associate member).

A vote of thanks was accorded Mr. Sydney D. Kitson on his retirement from the President's chair. It was remarked that he had worked hard during his term of office, and with a spirit of comradeship that had been pleasant for everybody.

GENERAL NEWS.

Royal Institute of British Architects.

An exhibition of original drawings in the possession of the Institute is being held in the Institute Galleries during the present week from 10 a.m. till 8 p.m. (Saturday 10 a.m. till 6 p.m.). The exhibition will close on Saturday, the 27th inst.

Knebworth Garden Village.

The first sod of the Knebworth Garden Village on the estate of Lord Lytton was cut on Saturday last. About 1,000 acres at Knebworth have been set aside and a comprehensive scheme of development has been prepared by Mr. Edwin L. Lutyens, acting in conjunction with Mr. Thomas Adams, now Town Planning Adviser to the Local Government Board. The working out of the plan and the detailed plotting is being carried out by Messrs. Pepler & Allen. The development of the garden village is being undertaken by Garden Villages, Ltd., of which Lord Lytton is President. A feature of the scheme is the formation of a Co-partnership Tenants' Society, named Knebworth Tenants, Ltd., which is arranging to build cottages with good gardens round the village green. These cottages are to be let at 5s. 6d. and 6s. 6d. a week, and each has three bedrooms and a bathroom.—The ceremony was performed by Mrs. Cecil Harmsworth, Sir T. Sydney Lea, Bt., Chairman of Garden Villages, Ltd., presiding. He said that what was necessary in such schemes was the co-operation of the landlord and his tenants. A notable feature of the scheme was the co-partnership tenants system, under which the profits went to the reduction of rent.—Mr. Cecil Harmsworth, M.P., said that the garden city movement was one of the romances of the time.—Lord Robert Cecil said that at Letchworth they had what was so far the only complete example of a garden city, and they hoped to see something of the same kind established at Knebworth. It was on those lines that they were destined to find—he would not say the whole solution—but some part of the solution of the greatest social problem of modern times—the housing problem. The great difficulty was to provide good houses at a price which those who lived in them could afford to pay. The problem was quite as urgent in rural districts as in urban. It was on the lines of co-partnership that we had the best chance of looking for the solution of most of the great social problems. He had the greatest reverence for the old economists with their suggestion of the division of labour. Division of labour was, no doubt, an economic principle of great importance. But, carried to the extent to which it had been carried in this country, it had destroyed all human interest in the methods of labour. Unless we could find some means of reuniting humanity with labour the outlook in this country was very black. The principle of co-partnership was the most hopeful means of dealing with the problem.

Cambridge University: New Buildings.

The Lords of the Treasury have provided for the formal transference, in April of next year, of the Solar Physics Observatory to Cambridge University, and have allocated sums of money for the purchase of additional land, the cost of new buildings and equipment, and the provision of instruments and apparatus. The Development Commissioners have established a Research Institute for the Cambridge Board of Agriculture, and propose to make a grant of 18,000*l.* on behalf of an extensive addition to the School of Agriculture buildings. Other schemes in progress comprise a new Forestry Laboratory, to be erected on the Downing College land, concurrently with a new code of regulations affecting the probationers, and their courses of study, of the Indian Forestry Department, which will now be brought into closer relation with timber merchants, builders, and others, and so establish more active co-operation between contractors and merchants, and the work of that department.

St. Olave's Church, Mile End New Town.

The vestry of St. Olave's, Hart-street, E.C., are about to close the Church of St. Olave in Hanbury-street, E., in view of the fact that the population having become mostly Jewish the services are very sparsely attended, and it is proposed to transfer to other needy parishes the annual subsidy of 600*l.* derived from the income of St. Olave's, Hart-street. St. Olave's, Mile End New Town, was built by the rector of the City parish, for 500 sittings, after the designs of Sir A. W. Blomfield, and consecrated in 1875, the endowment being provided out of the funds of the parish of St. Olave, Hart-street.

The National Nautical School, Somersetshire.

The King has expressed his regret that he cannot visit Portishead next month when the Chapel of the National Nautical School is to be dedicated by the Bishop of Bath and Wells. He will be represented by H.S.H. Prince Louis of Battenberg, who will inspect the school and give away the prizes to the boys. The school was built from the designs of Mr. Edward Gabriel (Messrs. Edmeston & Gabriel), who also designed the chapel, which is now nearing completion. Messrs. Cowlin & Sons, of Bristol, were the contractors for the school buildings, and Messrs. Saml. Martin & Sons for the chapel. H.S.H. Prince Louis of Battenberg has fixed the date for his visit on May 14.

Royal Scottish Museum, Edinburgh.

Steps are being taken to make extensive enlargements and improvements of the Museum. It is intended to expend 6,000*l.* upon a new administrative block, and about 48,000*l.* upon an enlargement, to double the capacity of the Natural History galleries by the erection of three upper floors. Other galleries are also to be enlarged, embracing the Machinery Hall. A south-eastern lecture hall is to be erected, and the principal hall will also be extended.

Crystal Palace Engineering School.

The "Wilson Premium" for the best paper read before the Crystal Palace Engineering Society (affiliated to the Society of Engineers, Incorporated) during the present session has been awarded by the Council to Mr. E. C. Coke, for his paper on "The Electrification of the L.B. and S.C. Railway." Other papers read during the session were "Railway Signalling," by Mr. S. A. Hall; "Macadam and other Roads," by Mr. J. D. Deane; "Town Water Supply," by Mr. A. H. Talbook; and "Internal Combustion Engines," by Mr. E. C. Whelon. The premium was presented to Mr. Coke by Rear-Admiral Gordon Wilson Moore, C.V.O., Director of Naval Ordnance, on the occasion of the 118th distribution of certificates to the above School on Wednesday, April 17, at which he presided.

COMPETITION NEWS.

Designs for Monument, Canada.

H.M. Trade Commissioner reports that the Public Works Department invite designs for a monument to be erected at Ottawa to his late Majesty King Edward VII. The monument, including pedestal, is to cost about 35,000 dollars (about 7,200*l.*). Designs must be in the form of sketch models in plaster, made at a uniform scale of 1½ in. to the foot; they should be sent to Mr. Eric Brown, Director of the National Art Gallery, Ottawa,

Canada, and must be delivered by October 1. Communications regarding the competition should be addressed to the Secretary, Public Works Department, Ottawa, Canada.

Regent's Quadrant.

In connexion with the competition instituted by the proprietors of the *Builder* for a new façade to the Regent's Quadrant, we would remind competitors that any inquiries should reach the Editor by the 29th inst. Replies will be published in our next issue.

Sunk Arena and Bandstand, Hastings.

With reference to the "Note" on this competition in our last issue (p. 445), we are informed officially that the Hastings Corporation have withdrawn the offending stipulation, and will return deposited cheques on receipt of competitive drawings. The date for sending in designs has been extended to May 18.

Middlesex Hospital, Berners-street.

Mr. Edmund Davis, a Governor of the Middlesex Hospital, has generously arranged for the rebuilding of the entrance with a view to mural decoration. The plans, by Mr. Keith D. Young, F.R.I.B.A., provide for four wall-spaces, lit from the roof, each measuring 5 ft. 8 in. high by 10 ft. 11 in. broad. The architect proposes a dark wooden dado, preferably of teak, and a moulding for the paintings either of the same material or of some other, at the discretion of the painters, and that outside the moulding should be a plain surface of white or light-coloured plaster. Plans are on view at Crosby Hall, Chelsea, showing the arrangement and lighting.

The subjects, it is suggested, should be symbolical, such as "The Good Samaritan," or might be cheerful scenes of convalescence in the country or by the sea, or scenes of ordinary life at different times of the year.

Each competitor is limited to one design, which must be sent to Crosby Hall by May 21. Co-operation between several designers is permitted.

Mr. Davis, who is a well-known connoisseur, offers 100*l.* for the execution of each painting from a design approved by him. In the event of a design being accepted and not approved of by the Middlesex Hospital, the sum of 50*l.* will be given in lieu of the execution of the work.

Public Elementary School, York.

The first premiated design for the Knavesmire Council School is by Mr. John T. Proffitt, M.Inst.C.E., Central-buildings, Memorial-road, Walkden, near Manchester. The second design is by Mr. E. R. Barrow, F.R.I.B.A., Lennox House, Norfolk-street, Strand. The third design is by Mr. J. A. O. Allan, 25, Union-terrace, Aberdeen. The assessors were Messrs. T. Mellard Reade & Son, of Liverpool.

Cardiff Football Stands.

The result of the open competition for new grand stand, etc., for the Cardiff Rugby Football Club is as follows:—First premium (30*l.*) to Mr. Leitch, of Liverpool. Second premium (20*l.*) to Messrs. R. & S. Williams, of Cardiff. Third premium (10*l.*) to Messrs. Ivor Jones & Percy Thomas, of Cardiff.

BOOKS.

Architecture: An Introduction to the History and Theory of the Art of Building. By W. R. LETHABY. (Home University Library.)

WHEN it was announced that the promoters of the Home University Series had confided the subject "Architecture" to an author, and assigned him the space comprised within the green covers of one of their handy little pocket volumes in which to develop the theme, imagination boggled at the pictures called up, of Fergusson brought up to date, carefully desiccated, pounded, pressed, and seasoned to taste—the whole history of the Mistress Art from the cave-dwellers' lair to the sky scraper—neatly packed into 250 duodecimo pages! One knew not whom the more to commiserate, the author doomed to carry out the process or the reader who should attempt to get his teeth into the indigestible viand. Happily neither are in need of our pity, and both rather claim our congratulations. The works issued in this admirable series have nothing in common with the cram-book. The plan is that each volume shall be a "new work inspired by knowledge of the latest research and critical thought" and one in which "the best voices of contemporary scholarship" shall be heard. "Each . . . [is] to constitute a vivid introduction to its subject, throwing into relief its fundamental principles and ideas, to be an incentive to further study rather than a dry text-book." With this last end in view a compact bibliography is appended to each volume.

In the selection of Professor Lethaby the editors have been peculiarly happy, for he is incapable of producing pemmican, and no architectural writer more fully merits the adjective "vivid." While none knows better than he how to pass in review a vast range of topics, he never allows the trees to conceal the wood, and while eliminating the unessential and marshalling the serried ranks of the selected facts he ever avoids the least danger of aridity by providing green oases of enthusiastic description—delightful because delighted—or interspersing humorous and penetrating *obiter dicta*. Here is an example:—"A self-conscious appeal is likely to become a disease of art, the true appeal is a fact. Barns, waggons, and lighthouses do not appeal, they *are*, or I should say *were*, for I saw a lighthouse some months since on which no expense had been spared to make it æsthetic, and it illuminated the whole problem."

There was a time when, as it is rumoured, the burden of Professor Lethaby's teaching to architectural students was "Burn your books." He has slightly altered his position nowadays, and we are allowed to read our books, provided that we do not attempt to do again anything we see in them. Archæology indeed looms large in these pages, and no more competent guide than our author could be found to conduct us rapidly, while missing nothing that we should see, through the history of ancient and mediæval architecture. The chapters are unequal in length and diverse both in scope and method of treatment, but all have valuable lessons or at least provide food for thought. Professor Lethaby is perhaps at his happiest when he explores the dawn of history in the Eastern Mediterranean or traces the achievements of Greece and of the Early Christian and Byzantine Schools, or when he points out the debt owed by European architecture to those varied and fascinating phenomena of Oriental Art which he groups together under the apt title of "The Eastern Cycle." The relatively ample space which he has assigned to Egyptian "Monuments, Methods, and Ideas" may appear, as he himself admits, excessive, while, on the other hand, his dismissal of all Gothic architecture in two short chapters occupying between them less than thirty pages is a little tantalising. In so brief a work the less vital branches of this as of other subjects are necessarily rejected, and we are restricted to France and England, but how differently we fare in the two countries! The English chapter is not only fuller, as indeed is right in a work intended for English readers, but also more systematic and more closely packed with well-digested information, resolving itself to a large extent into a valuable essay at a more reasoned system of chronological classification. In the preceding chapter on France, on the other hand, it would be hard to find a concrete statement of facts, a date, or even a name. It is a dithyramb on the "Art of energy," a lyrical outburst glowing with the glory and the triumph of that wondrous Middle Age and its craftfulness. If it does not inform greatly, it cannot fail to inspire.

As might be expected, the Renaissance comes off but ill at our author's hands, and, on the whole, we are glad he restricted himself to seven pages! It is "a style of boredom . . . it tends to be blind, puffy, and big wiggy." "As a whole it seems to be the art of an age of indigestion." But Professor Lethaby is always entertaining, and we readily forgive him these quips in view of the charming way he has of making them. Nor must we overlook the essential fairness which enables him to allow some merits even to the "pestilent art." "The first enthusiasm of the Renaissance must have been a wonderful experience when men like Donatello [" Donatello" observe, not "Brunelleschi"!] awakening to the idea 'We are Romans,' explored the Forum and broke into the Great Baths." "The great gift of the Renaissance would seem to be the scientific spirit, and we probably owe to it larger ideas of civic order and hygiene." "Its arts to some degree reconsidered first principles." Certain individual works of the Renaissance are even "beautiful" in his eyes.

In the last chapter, on "The Modern Position," we have him at his most characteristic. It must be read to be appreciated, and, whatever we may think of the views set forth, it will prove as delightful and stimulating reading as any other part of a book which is anve from title to *Finis*, and suggest two thoughts for each one it expresses. It is an astonishingly able performance, showing a rare combination of encyclopædic knowledge and critical insight with the difficult arts of selection and of expressing results in limpid and flexible English. None surely can read this delightful essay—and none should omit doing so—without a feeling of personal indebtedness to the author.

In regard to the series as a whole, we venture the hope that it may be possible to supplement this necessarily rapid survey by the issue of volumes dealing more fully with each of the main great periods. There is surely a demand among t e wide public to whic.i this series is addresse.l for volumes on the Byzantine, the Gothic, and the Renaissance Schools, to say nothing of more ancient history.

Pompeian Decorations. By R. A. BRIGGS, F.R.I.B.A. (London: Batsford. 1912. 25s. net.)

THE very first sentence of the Preface of this book contains a statement which anyone acquainted with some of the more monumental works on Pompeii must examine with critical hostility:—"Owing to the absence of any process that could faithfully reproduce the drawings, no book has hitherto been published which shows with fidelity the beautiful and gorgeous colouring of the mural decorations of Pompeii." He goes on:—"Two works on the subject were produced by lithography some years ago at a high price, and before the three-colour process was invented or brought to its present state of perfection; but they show very inadequately the beauty of the decorations and the delicacy of their form and colouring." Well, these remarks with their implications are substantially untrue. To those who know and marvel at the wonderful publications of Signor Niccolini and Herr Zahn, but especially that of the first named, the inevitable reflection, on turning over the leaves of Mr. Briggs's book, will be:—"If the former men and methods were inadequate, how much more so this later one! Where is the advantage of a perfect three-colour process if it be used but to put more faithfully before us the pink prettiness we have here; what the compensation for the velvet depth and atmosphere of a view done under the direction of Niccolini, or the verisimilitude with subtle opalescence and effects of light of one of his plates of details, in these most young-ladylike sketches by Mr. Briggs?" And, turning to reproductions of some of the "principal decorations, which *in many cases* are drawn to scale" (!), of what avail these scraps and patches? On Plate I. six shreds of mosaic, being part of the decorations of a column, feebly indicated at the side; on another (at random) part of a ceiling, pretty enough as far as it goes, but what of the whole? And so on, interspersed with meagre details poorly drawn in pencil—details which have been ever so much better done fairly recently by Mr. S. C. Watt. But supposing the colours are accurate reproductions (they look faded)? We will go so far as to say that they are probably accurate enough as far as Mr. Briggs's drawings are concerned, since we have some confidence in Mr. Batsford and those who work for him. But are Mr. Briggs's colours more reliable than his drawing, which is always feeble and in some cases definitely wrong? No. Let those who tackle big subjects do so seriously and thoroughly, or leave them alone. And let those who can do neither refrain from introducing their casual labours with slighting references to the directors of works which put their own to shame.

CORRESPONDENCE.

The R.I.B.A. and Registration.

SIR,—In reference to the letter from the Institute Members' Club, which appeared in the *Journal* of the R.I.B.A. of the 13th inst., we should like to point out that the question of Registration with which it deals is one so profoundly affecting the welfare of the profession that it should not be allowed to die through the apathy or indifference of the responsible guardians of the trust and obligations imposed upon them by the general body of the Institute. Nobody regrets more than ourselves the futile efforts made by the R.I.B.A. to deal successfully with a great problem which is of vital interest to every practising architect. These futile efforts were the result of an adoption of a foolish compromise which satisfied neither side, and subsequent events have shown that the compact made five years ago was an unworkable one. In these circumstances we now feel free to take an independent course and to definitely and finally throw over our allegiance to the policy of compromise then forced upon us, with which we have never pretended to be really in sympathy.

We consider that the R.I.B.A. scheme, even with any considerable modification of its details, could never become law, for it is ludicrous to suppose that any Government would permit the Institute to become the sole examining body for granting diplomas, or allow it to have sole jurisdiction over the profession of which it forms so small a part. For instance, the University of Cambridge has inaugurated a School of Architecture and instituted examinations on a higher and more comprehensive scale than those of the Institute. Is it likely that this ancient seat of learning, one of the two oldest educatjonal centres in the kingdom, with its two Parliamentary representatives, would submit for one moment to the proposed dictatorship of the Institute?

Again, is it reasonable to assume that the University of Oxford, which will probably follow the sister University in founding a course of study in architecture, with its prestige, power, and influence behind it, will stultify a more than probable future educational extension by passively submitting to the philandering scheme of the Institute?

Surely, having regard to the fact that the policy of the R.I.B.A. is bound to bring about the active opposition of the distinguished Parliamentary representatives of these Universities, whose views on educational questions would be likely to be accepted by Parliament almost without question, there would be no chance of the Institute's Bill becoming law unless the equitable recognition of these and other educational bodies were freely accorded.

As a melancholy example of the short-sighted policy of the Board of Architectural Education, whose action was subsequently confirmed by the Council, we may quote the case of Cambridge University:—

Certain Universities of recent formation and without Parliamentary representatives which have adopted the R.I.B.A. regulations in regard to architectural study were regarded as "recognised schools," and, as such, obtained certain privileges—*i.e.*, exemption from the Intermediate Examination, etc.—whereas Cambridge, with a higher standard of education and powerful influence in both Houses, was not accorded a similar exemption. The absurdity of this exclusion is more apparent when certain other facts are taken into consideration, such as the privileges accorded to Liverpool and Manchester, which were granted because these Universities taught "Design," whereas Cambridge does not pretend to do so.

The reason for excluding Cambridge is not quite clear, inasmuch as "Design" is only an optional subject in the Intermediate Examination, and the confusion of ideas becomes absolutely chaotic when it is remembered that the leading opponents to Registration have declared over and over again that "Design" cannot be taught, and therefore, we should have thought, could not become a subject for examination.

However, the question of education is one of far too serious a nature to be allowed to be treated thus lightly and illogically, consequently, as a preliminary proceeding, we think the Institute would be well advised to approach the older Universities on the subject of architectural education in a far more friendly and conciliatory spirit than it has yet shown, with a view to enlisting their guidance and support. Further, it is folly for the Institute to imagine that it has the remotest chance of securing Parliamentary recognition for its members without due assurance that its proposals will not encounter active opposition of the Surveyors' and Engineers' Institutions, to say nothing of the many Borough and County Councils, all of which bodies will assuredly have to be placated.

In short, the Institute must remember that it is acting for the welfare of a large profession, of which it forms only a part, and not for the individual glorification of its members.

There is much spade work to be done by the Institute before any Bill can be drafted, and if the R.I.B.A. would condescend to set about this preliminary work instead of forming itself into committees to draft Bills which have no earthly chance of ever becoming the law of the land, the Council would be embarking on a course of profitable work. The continuance of its policy of spending its time and irritating its more serious members in futile efforts to obtain Parliamentary recognition without first preparing the ground seems to us to be nothing more or less than trifling with a stupendous problem which has yet to be solved.

A. W. S. CROSS.
GEORGE HUBBARD.

How Many Houses to the Acre?

SIR,—Referring to the "Note" upon my letter to the *Times* in your issue of April 19, it seems to me that the contributor of your "Note" is mistaken in assuming that the limitation of the number of houses to the acre is merely a question of maintaining a certain fixed relation between the cubic contents of building and the area of ground around that building. This, indeed, is one of the elements, but only one. The other, and perhaps on the whole more important matter, is to limit the number of families living upon the acre in order to secure to each family sufficient ground to give opportunities for the cultivation of a garden and for suitable recreation for the children of the family. From this point of view the size of the dwelling in which each family lives is, comparatively speaking, unimportant in determining the area of ground desirable for the family. In practice, therefore, I think that a simple limitation of the number of cubic feet of building to be erected on each acre would be found to be almost as crude in relation to some aspects of the problem as the simple limitation by means of a flat rate of the number of houses, irrespective of their size, is undoubtedly crude in relation to other aspects of the problem.

On the whole, therefore, I think it will be found that the system, which is now fairly generally being adopted by enlightened owners of land when trying to fix suitable limits, to put in the lease of such land to a society wishing to develop it upon right lines, is much the simplest and most satisfactory, and that is by means of a scale fixing a maximum number for houses of different sizes.

Moreover, it has this advantage, that it complies with the form of the present Housing and Town Planning Act, which gives power to limit the number and character, but does not give power irrespective of the number and character to fix the maximum number of cubic feet of building which may be erected.

RAYMOND UNWIN.

The Newer Responsibilities of Architects.

SIR,—In your report in the issue of April 19 upon the proceedings at the Royal Institute of British Architects on the 15th inst. it might be assumed, from the omission of any report of my reply at the conclusion of the discussion, that I accepted the numerous criticisms, both legal and lay, which were passed upon my paper. Will you, therefore, allow me space to repeat what I stated at the meeting, namely, that I found myself very considerably at variance with those critics, and much regretted that time did not permit of my replying properly to them?

I do not propose to encroach on your space by any attempt to repair the omission here, but may perhaps mention that anyone sufficiently interested may find a report of my observations in the next number of the R.I.B.A. *Journal*.

EDWARD GREENOP.

Hastings Bandstand Competition.

SIR,—Your readers have occasion to thank you for your frank remarks upon this competition in your issue of the 19th inst.

I am satisfied that the general public will not view with approval the attitude of the promoters, who not only adopt a most wasteful system of competition, but seek to make an actual profit from the overburdened professional by charging each of those competing an entrance fee of a guinea, which is not to be returned.*

Anything more unworthy on the part of a public body I can scarcely conceive, and one wishes they could more intimately know the circumstances of those who will compete.

The Corporation invite numbers of struggling men at a cost to each of them in money and labour of from 20*l.* to 40*l.* to compete for two prizes of the value of 15*l.* and 10*l.*; no promise is made that the work shall be given to the man whose design is accepted, nor any pledge that it shall not be handed over to be carried out by a Corporation official without any skill or knowledge of architecture whatever.

Experience teaches us that these invitations tempt from fifty to a hundred men to embark upon a lottery where the money and labour expended by them cannot be estimated at less than a thousand pounds, which for the most part must be thrown away.

Is it possible that the inhabitants of this beautiful town will permit such things to be done in their name? The terms practically exclude any architect of means or repute from offering his services to add to the beauty of the place.

There is another aspect of the matter, and that is that Hastings has already lost too many of its attractions through ill-advised action in matters of this sort.

The East-hill—the hill that has been painted by so many great painters, some of whom lived beneath its shadow—has been entirely destroyed as a picture by a lift running up its front; a lift surrounded by a sham Gothic castle, and the skyline of the hill is broken by the brick shaft of the sewer outfall works. The hand of the Road Surveyor and Engineer has had too free a play. The magnificent seafront is disfigured by some of the most gigantic advertisement displays to be seen in the country. Truly the beauty of the place can only be preserved "at the price of eternal vigilance."

It is scarcely possible to believe that this can have occurred in a Borough where a few years ago the fine public spirit of the place sent abroad a student from the Paris School of Fine Art to study and design for them one of the best Town Halls of the time.

I trust, Sir, that before it is too late the Corporation will see that they have everything to gain by entrusting their work to the man whose design is accepted, and in dealing even in a generous manner with a profession whose members cannot be charged as a rule with being wealthy.

CHRISTOPHER M. SHINER.

INTERCOMMUNICATION COLUMN.

Treatment of Brickwork.

SIR,—Can you give us any information about the best treatment of brickwork from which salt is drying out? The brickwork has been done very carefully with cement. The bricks are pressed facings, and in this dry weather what should show as dark red bricks is almost as though it had been whitewashed. We fear if this salt which has dried out is allowed to sink in again there will be a repetition of the disfigurement in succeeding years. What do you suggest as the best treatment? Washing is not entirely effective with plain water, though we are trying this. Can you suggest a treatment that would be effective in one operation without injuring the work in any way?

B. P.

Insect Nuisances.

SIR,—In a new house many small insects, of the kind sometimes found in old books, have made their appearance. Can you give me the cause and any cure for this? There is a considerable amount of wood panelling in the house; could they have come in this?

O. P. M.

* See p. 483.

EDITORIAL SUMMARY.

"The British School at Rome" is the title of our leading article, which deals with the Royal Charter which it is proposed to grant to the School.

A second article appears on p. 476, entitled "Hospital Criticism."

In "Notes" columns (p. 476) will be found observations on: "The London Society"; "The Cockburn Society"; "The Aftermath of the Strike"; "The Institute Drawings"; "Indian Native Craftsmen"; "The York House Water Gate."

An article on "The Exhibition of the International Society" appears on p. 477.

A meeting of the R.I.B.A. was held on Monday, when a paper was read by Mr. C. Harrison Townsend on "The R.I.B.A. Library and Some of Its Contents." An abstract appears p. 478.

A report of a recent meeting of the Society of Architects, when a discussion on "Principles of Professional Practice and a Code of Ethics" took place, is given on p. 480.

An article on "Recent Workmen's Compensation Cases" will be found on p. 481.

In "Architectural Societies" (p. 482) will be found short reports of: "Leeds and Yorkshire Architectural Society"; "Birmingham Architectural Association."

Book notices (p. 483) include: "Architecture: An Introduction to the History and Theory of the Art of Building"; "Pompeian Decoration."

In Correspondence Column (p. 484) will be found letters on: "The Newer Responsibilities of Architects"; "How Many Houses to the Acre?"; "The R.I.B.A. and Registration"; "Hastings Bandstand Competition."

Notes on some Magazines of the Month appear on p. 4 6.

The Monthly Illustrated Engineering Review (p. 487) contains: "Lighting by Air-Gas"; "Pure Cement Concrete as a Lining for Kilns"; "Colloidal Nature of Cement"; "Foundation Loads"; and Notes.

The Building Trade Section (p. 491) contains: "The Modern Bricklayer and His Work"; "The Mediæval Carpenter"; "Government Contracts"; "Projected New Buildings in the Provinces," etc.

Some notes on the Ideal Home Exhibition at Olympia are given on p. 494.

"The Sculptor's Assistance to Architecture" is the title of a paper read before the Leicester and Leicestershire Society of Architects, an abstract of which appears on p. 496.

Legal Column (p. 498) includes notes on: "The Finance Act: Site Values"; "Trade Union Law."

MEETINGS.

FRIDAY, APRIL 26.

The Society of Architects.—Twenty-eighth annual dinner, Holborn Restaurant. 6.30 p.m.

The Institution of Civil Engineers.—Lecture on "The Principles and Practice of Accountancy in relation to Engineering Design and Work," by T. Frame Thomson, M.Inst.C.E. 8 p.m.

Royal Society of British Artists (Suffolk-street, Pall Mall, S.W.).—Mr. A. Wallace Rimington, R.B.A., A.R.E., on "Some Little-Known Sketching Grounds." The chair will be taken at half-past eight o'clock by Sir Alfred East, P.R.B.A. The lecture will be illustrated by lantern slides.

SATURDAY, APRIL 27.

The Royal Institution.—Lectures on "The Architecture of the Renaissance in France, 1494-1661," by Professor Reginald Blomfield, A.R.A., M.A., F.S.A. II.—"1547-1574: Architecture and the Court." 3 p.m.

Junior Institution of Engineers.—Visit to the Engineering Workshop and Laboratory and Electrical Laboratory of "The Polytechnic," 307-311, Regent-street, London. 3 p.m.

MONDAY, APRIL 29.

Royal Society of Arts (Howard Lecture).—Capt. H. R. Sankey on "Heavy Oil Engines"—I. 8 p.m.

The Surveyors' Institution.—Mr. G. T. Loban, F.S.I., on "Some Principles in the Valuation of Land and Buildings." 8 p.m.

TUESDAY, APRIL 30.

Institution of Civil Engineers.—Annual general meeting of Corporate Members only, to receive the Report of the Council, and to elect the Council and auditors for the ensuing year. 8 p.m.

WEDNESDAY, MAY 1.

Royal Archæological Institute.—Mr. Alfred C. Foyer, M.A., F.S.A., on "The Monumental Effigies by Nicholas Stone." With lantern illustrations. 4.30 p.m.

Royal Society of Arts.—Mr. W. Burton, M.A., on "Ancient Egyptian Ceramics." 8 p.m.

Guild of Architects' Assistants.—Annual general meeting. Prince Henry's Room, 17, Fleet-street, E.C. 7.30 p.m.

THURSDAY, MAY 2.

Society of Antiquaries.—8.30 p.m.

The Institution of Electrical Engineers.—Discussion on "The Causes Preventing the More General Use of Electricity for Domestic Purposes." 8 p.m.

SATURDAY, MAY 4.

The Royal Institution.—Professor Reginald Blomfield, A.R.A., M.A., F.S.A., on "The Architecture of the Renaissance in France, 1494-1661." III.—"1594-1661: Architecture and France." 3 p.m.

Edinburgh Architectural Association.—Visit to Glasgow: (1) The Cathedral; (2) Mitchell Library.

ILLUSTRATIONS.

The R.I.B.A. Pugin Studentship.

THESE are two of the drawings submitted for the Pugin Studentship, 1911, the author, Mr. Philip Dalton Hepworth, being awarded a prize of five guineas by the Council of the Royal Institute of British Architects.

The Cathedral at Senlis.

The first Cathedral of Senlis was slowly built from 1115 onwards; the disposition of it can still be made out. The original vaulting is sexpartite. The picturesque Romanesque shafts and carved caps in the interior much resemble those in Auvergne Church. The church was largely remodelled in the Flamboyant period, to which this transept belongs. Here and there is Renaissance feeling. The south-west spire is one of the most perfect in France, and there is exquisite carving in the north façade.

Bury St. Edmunds: The Abbey Gateway.

The Abbey gateway, Bury St. Edmunds, was commenced in 1347 to replace an earlier Norman gate, destroyed in 1327 in riots with the townspeople, apparently sadly frequent in the town of Bury.

There are three fine bays internally, and fine carving is noticeable everywhere. A most interesting account of the Abbey and the great Abbot Sampson is to be found in the chronicles of Jocelyn of Brakeland, in the end of the XIIth century. Of the great Abbey, once the second in England, only a few fragments remain. The well-known Norman tower was one of the other gates. Interesting Georgian domestic work is to be seen everywhere in Bury, especially charming little shop-fronts, ironwork, etc.

Baptist Church and Schools, Nottingham.

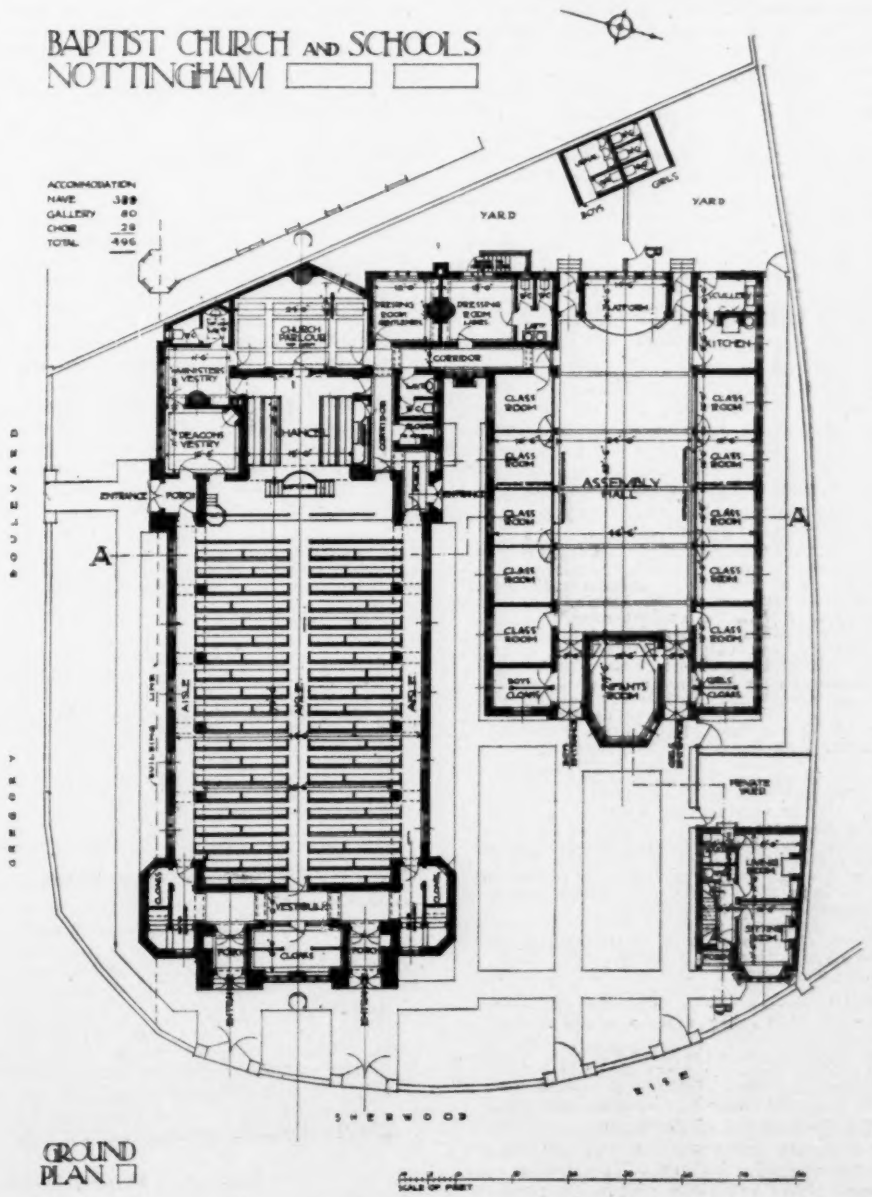
THE design for these buildings was selected by the assessor, Mr. Herbert W. Wills, in a recent competition, and are to be erected on a site at the junction of the Boulevard and Sherwood Rise, Nottingham. The external walling will be in square rubble Bulwell stone in courses averaging 4 in. deep; the stonework to doors, windows, plinths, etc., will be in Ancaster stone.

The internal face of walls are to be finished stucco. The arcade and internal stone dressings are in Bath stone.

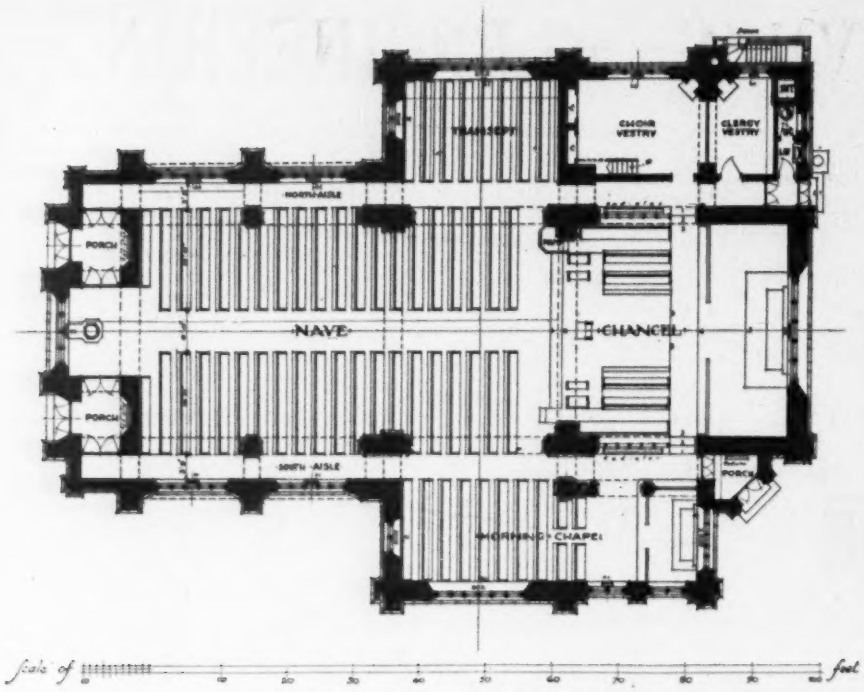
The roofs of the church and schools are in pitch-pine, the boarding Carolina pine and covered with hand-made sand-faced tiles.

The doors, seats, and other fittings are to be in Austrian oak. The chancel will be paved with black and white marble. The glazing throughout will be leaded lights.

The heating will be by low-pressure hot water; the ventilation by fresh-air inlet panels placed in the outer walls, and concealed extract ventilators in the apex of the roofs.



By Messrs. Sutton & Gregory.



Second Premiated Design, Church of St. Luke, West Hartlepool.

The church provides a total accommodation for 524 as follows:—Nave, 388; gallery, 96; choir, 40. Accommodation for 400 children is provided in the schools.

The architects are Messrs. Ernest R. Sutton and F. W. C. Gregory, of Bromley House, Nottingham.

Church of St. Luke, West Hartlepool.

IN our issue of March 16 we illustrated the first premiated design, that of Messrs. Lofting & Cooper, and now we illustrate the second premiated design by Mr. J. H. Morton, F.R.I.B.A., in the recent limited competition, of which the assessor was Mr. W. D. Caröe. The site of the church is at the junction of Tunstall-avenue and Hart-lane, and the church is to have 500 sittings, with morning chapel. A central tower is to be incorporated in the design, but is only to be carried out as far as the eaves of the nave at present. The building is to be erected in stone.

MAGAZINES AND REVIEWS.

The article by Sig. G. T. Rivoira in the *Burlington Magazine* is mainly devoted to an attempt to establish the date of the church and tower of St. Regulus at St. Andrews as the XIIth century. This has long been a matter of doubt to the antiquaries, and even now we doubt if Sig. Rivoira's conclusions will pass unchallenged, though supported by the following cogent considerations:—

"(*a*) At no time between the VIIIth and the XIth centuries were English, Scotch, or Irish builders in a position to execute such perfect masonry as appears in St. Rule's. My long acquaintance with the ancient remains in these countries justifies me in making this statement. The reverse can only be maintained by arbitrarily giving them earlier dates. In this way a hypothetical date has been ascribed to buildings such as the Round Towers of Ireland, which have been placed at any time between the Vth and XIIIth centuries, but, in my opinion, are not older than the Xth or XIth, the oldest (*e.g.*, those of Glendalough, Monasterboice, Antrim) being built of roughly hewn stones and rubble set in mortar, and provided with very rude openings. Nor is this all, for even in the time of Queen Margaret, the saintly wife of the warlike Malcolm III. (1057-1093), any masons that the Scots could have called in from the North of England would have been incapable of executing the work in St. Rule's. The church towers of Billingham, Jarrow, and Ovingham prove this.

(*b*) In England church towers with multiple windows of artistic form in the bell-chamber made their first appearance, to judge from the existing specimens, in the first half of the XIth century, and then only in a rude form like that at Earl's Barton. It is only after the Norman Conquest that they assume a more finished appearance.

(*c*) Engaged angle-shafts at the sides of openings did not appear in these countries before the XIth century. One of the earliest instances is in St. George's Church, Kirkdale (1055-1065)."

The illustrations of decorative sculpture at St. Andrews accompanying this article are of exceptional interest. The series on principles and evolution of furniture-making by Mr. A. Romney Green, of which the first instalment appears in this issue, opens with the consideration of the basic principles of design in regard to materials, and the examples illustrated are given with the intention of enforcing the author's views on the question.

The *Studio* has an article by Mr. Selwyn Brinton on the American sculptor, Daniel Chester French, who is responsible for the large groups decorating the New York Customs House. Recent designs in domestic architecture, a feature in this magazine, include "The Moorings," by Mr. T. E. Collcutt, some work by Mr. T. H. Mawson and Messrs. Parker and Unwin, with illustrations of an architect's house and studio, near Vienna, by Franz Krásny. The other illustrations include several architectural subjects by various artists, ably rendered.

The *Connoisseur* for April starts a series of articles by Ethel M. M. McKenna on the contents of the London Museum. In this first instalment china, domestic utensils, and embroidered clothing are dealt with. Among the notes some interesting examples of old furniture are illustrated.

Mr. Henry Vivian's summary of recent literature on "Garden Cities, Housing, and Town Planning" is a feature of the *Quarterly Review*. Mr. Vivian urges that there should be more co-operation between local authorities, landlords, and builders, so that the best use may be made of land under development. For instance:—

"The organisation of London and the urban areas around it is on this matter as unscientific as it could well be. Large sums of money, it is true, have been spent in preparing schemes for main roads, but there is no adequate authority to see them carried out. We have scores of authorities with conflicting aims and interests, each unconsciously—indeed, in some cases, it is suggested, consciously—frustrating whatever efforts at improvement the other is making. Take almost any main artery leading out of London. Look at the jumble of property which is being run up on each side of it. In twenty years from now these roads will be in many parts too narrow by from 25 ft. to 50 ft. for the traffic they will have to bear. For the most part they will be shabby and undignified. Widenings will cost more per 100 yds. than they would have cost per mile ten years ago. The part which should have been dealt with, and ought at once to be dealt with, runs through districts which are being administered by perhaps half a dozen different urban public bodies. These have no plan to work to, and there is no central authority to impose any plan on them. Thus the efficiency, the comfort, and the health of a city which in a few years will have a population of ten millions is being sacrificed. Give home rule to localities by all means, but let it be on matters which do not frustrate the good of the whole. For certain large questions which affect Greater London as a whole, including the planning of main and secondary roads, the securing of open spaces, and the general disposition of the area over which the population of London will spread in the next fifty years, there should be a central responsible body, and whatever the local authorities do should conform to its general scheme."

Mr. Vivian's essay is worth reading throughout for its facts and suggestions.

The *Architectural Record* is largely devoted to a long illustrated article on the work, mainly of a commercial character, of Messrs. Holabird & Roche, at Chicago. As being of special interest to the architect we reproduce herewith the plan of this firm's own office, which occupies one entire floor of the Monroe Building. This indicates the scale and organisation of the busy architect's practice in the U.S.A.

FIFTY YEARS AGO.

From the *Builder* of April 26, 1862.

The Albert Memorial.

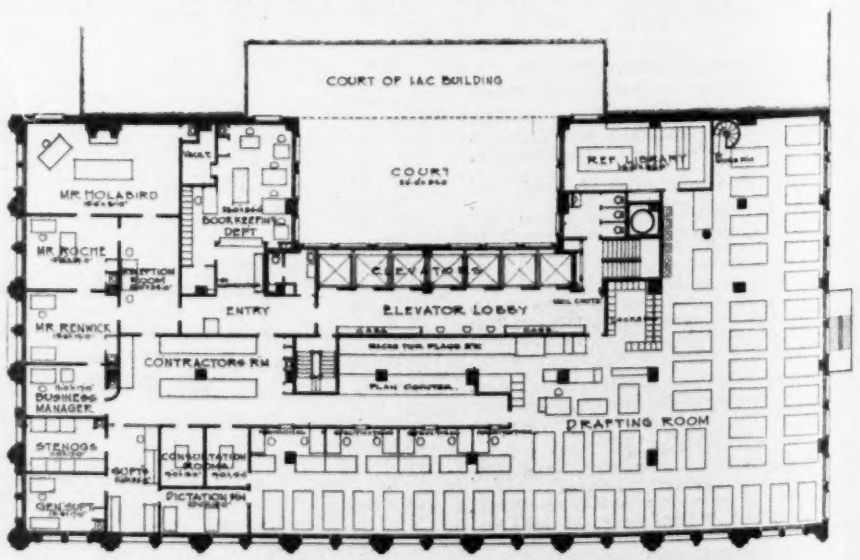
IT will have been seen that our intimation of the abandonment of a monolithic obelisk was correct. The Queen's Committee, in their first Report, say of the block of granite which they have been considering:—

"The length, which in the excavated portion already exceeds 115 ft., would, we consider, suffice for the intended obelisk. There appears, however, to be reason to apprehend that the width of the stone near the centre would be insufficient, according to the proportions of the most approved ancient examples, to be consistent with that height.

It is also by no means certain that the block referred to has the necessary thickness in those portions which are not yet cleared. An experienced contractor who has examined it has stated that nothing can be affirmed respecting the fitness of the stone 'until it be raised and turned out from its present bed.' For such operations a large outlay would be required; and we cannot but hesitate to recommend such outlay while we have no absolute certainty of a satisfactory result."

Afterwards they say:—

"While, therefore, we see no reason to conclude that success is absolutely unattainable, we believe that it would be accompanied by difficulties and by expenditure at present wholly incalculable. Nor can we refrain from expressing our serious doubts whether, even if the mere enterprise were successful, the ultimate effect would be such as to realise your Majesty's just and natural expectations."



Lay-out of Messrs. Holabird & Roche's Offices, Chicago.

(From the *Architectural Record*.)

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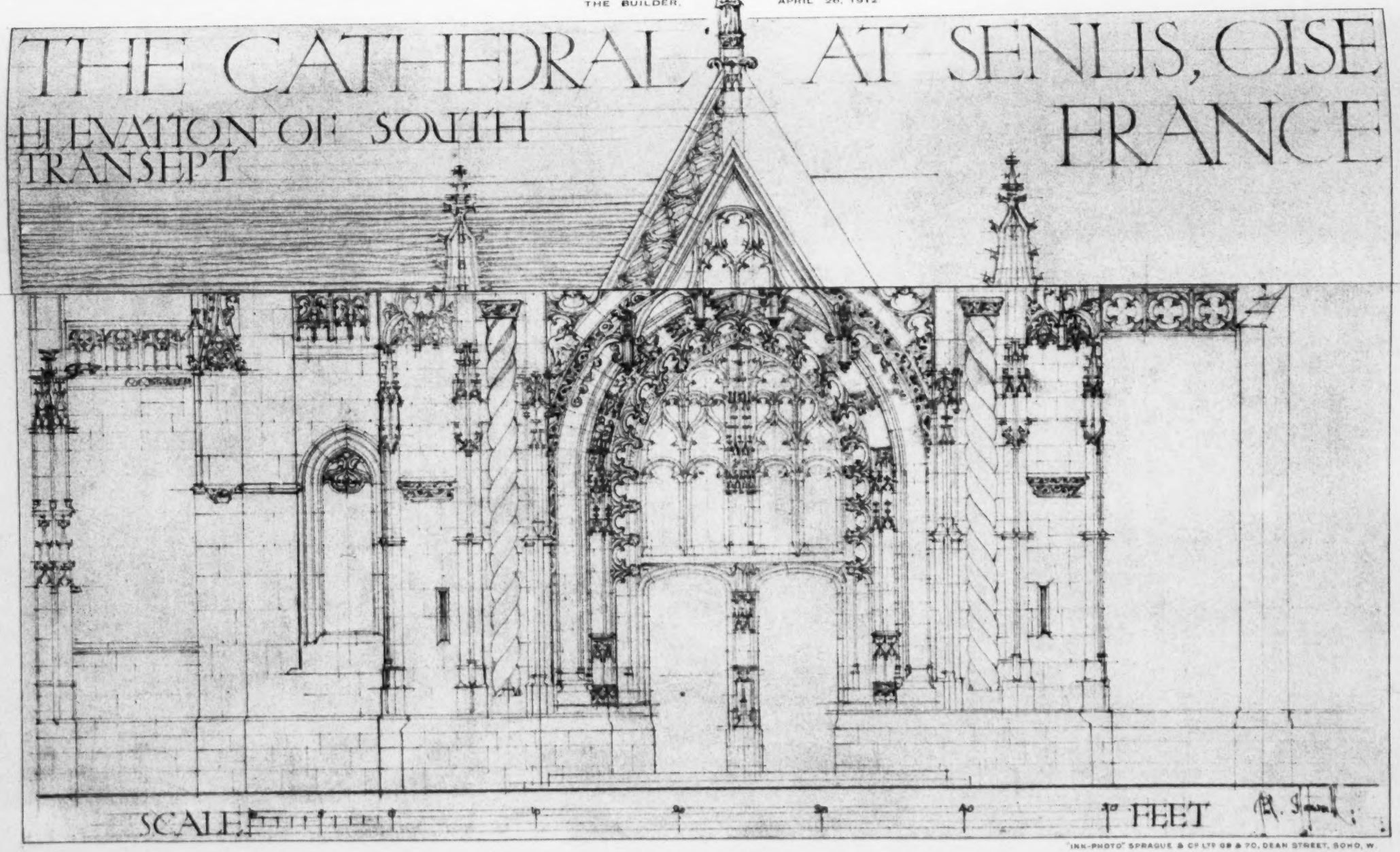
THE CATHEDRAL AT SENLIS, OISE FRANCE

ELEVATION OF SOUTH TRANSEPT



"INK-PHOTO" SPRAGUE & Co LTD 68 & 70, DEAN STREET, SOHO, W.

SENLIS CATHEDRAL.—Drawn by Mr. P. D. Hepworth.

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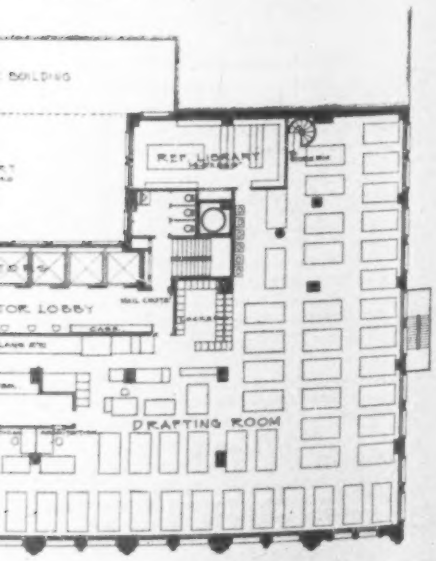


& Roche's Offices, Chicago.

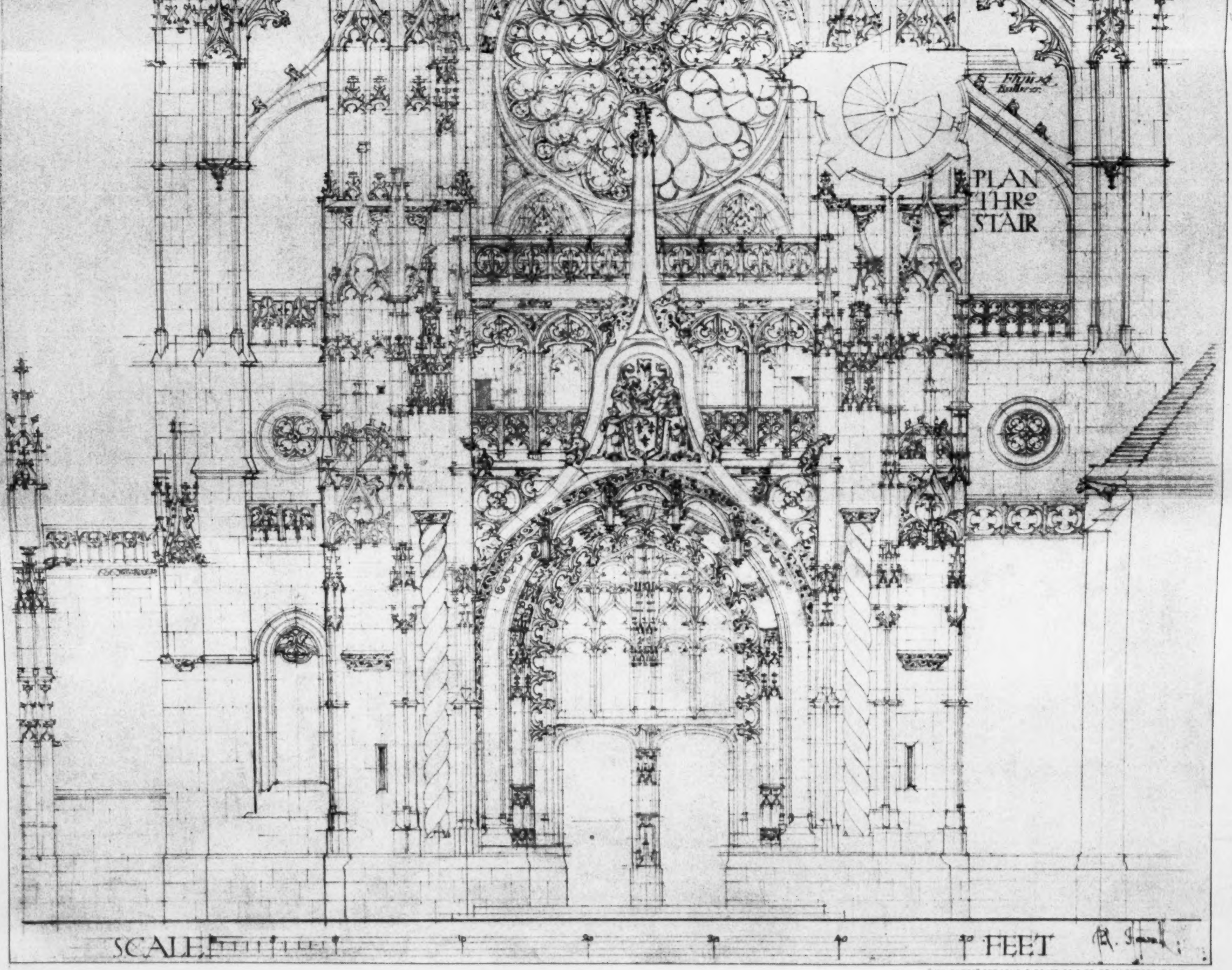
tec'tural Record.)

THE BUILDER APRIL 26, 1912

THE CATHEDRAL AT SENLIS, OISE FRANCE

ELEVATION OF SOUTH TRANSEPT

NOTE:—*Much of the inconvenience of fog, especially in the Winter, is said to be obviated by covering the approaches to Public Buildings with Asphalt.*



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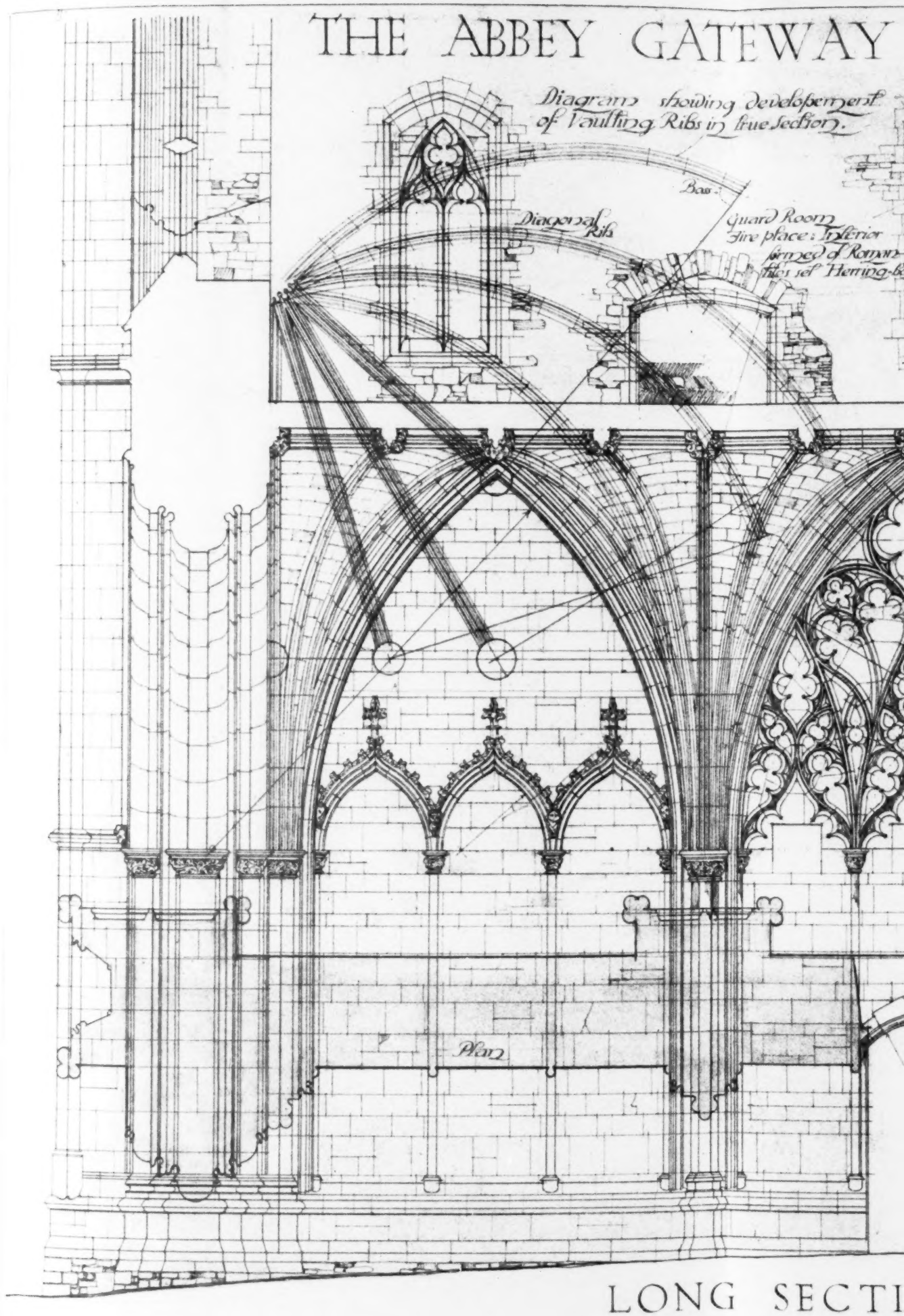
SENLIS CATHEDRAL.—Drawn by Mr. P. D. Hepworth.

THE ABBEY GATEWAY



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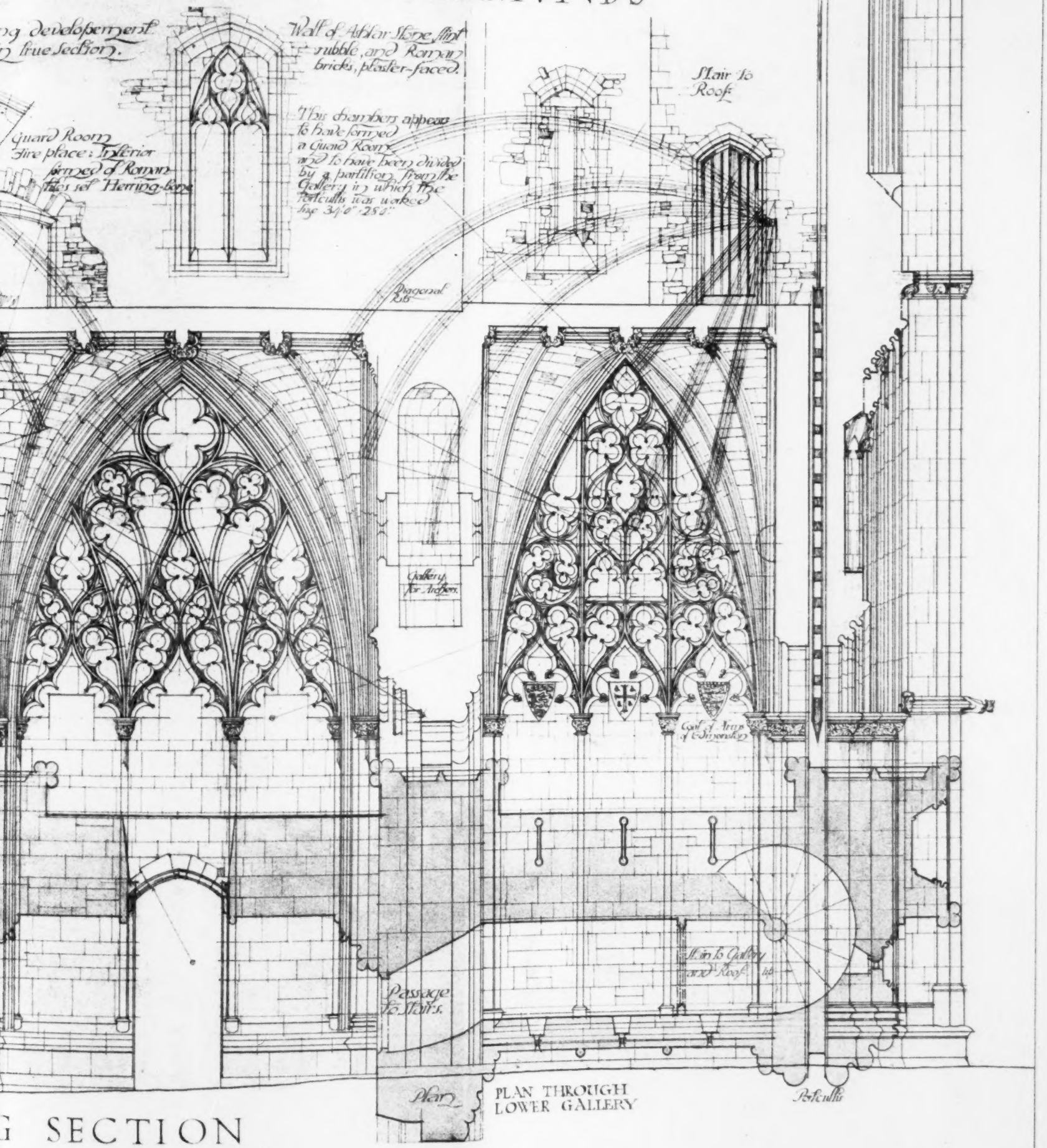
ng developement
n true Section.
Wall of Ashlar Stone flint rubble, and Roman bricks, plaster-faced.
Stair to Roof
Guard Room
Fire place: Interior formed of Roman tiles set Herring-bone
This chamber appears to have formed a Guard Room and to have been divided by a partition from the Gallery in which the portcullis was worked
Diagonal Rib
Gallery for Archers
Coat of Arms of Simpson(?)
Stairs to Gallery and Roof
Passage to Stairs.
Plan
PLAN THROUGH LOWER GALLERY
Portcullis

G SECTION

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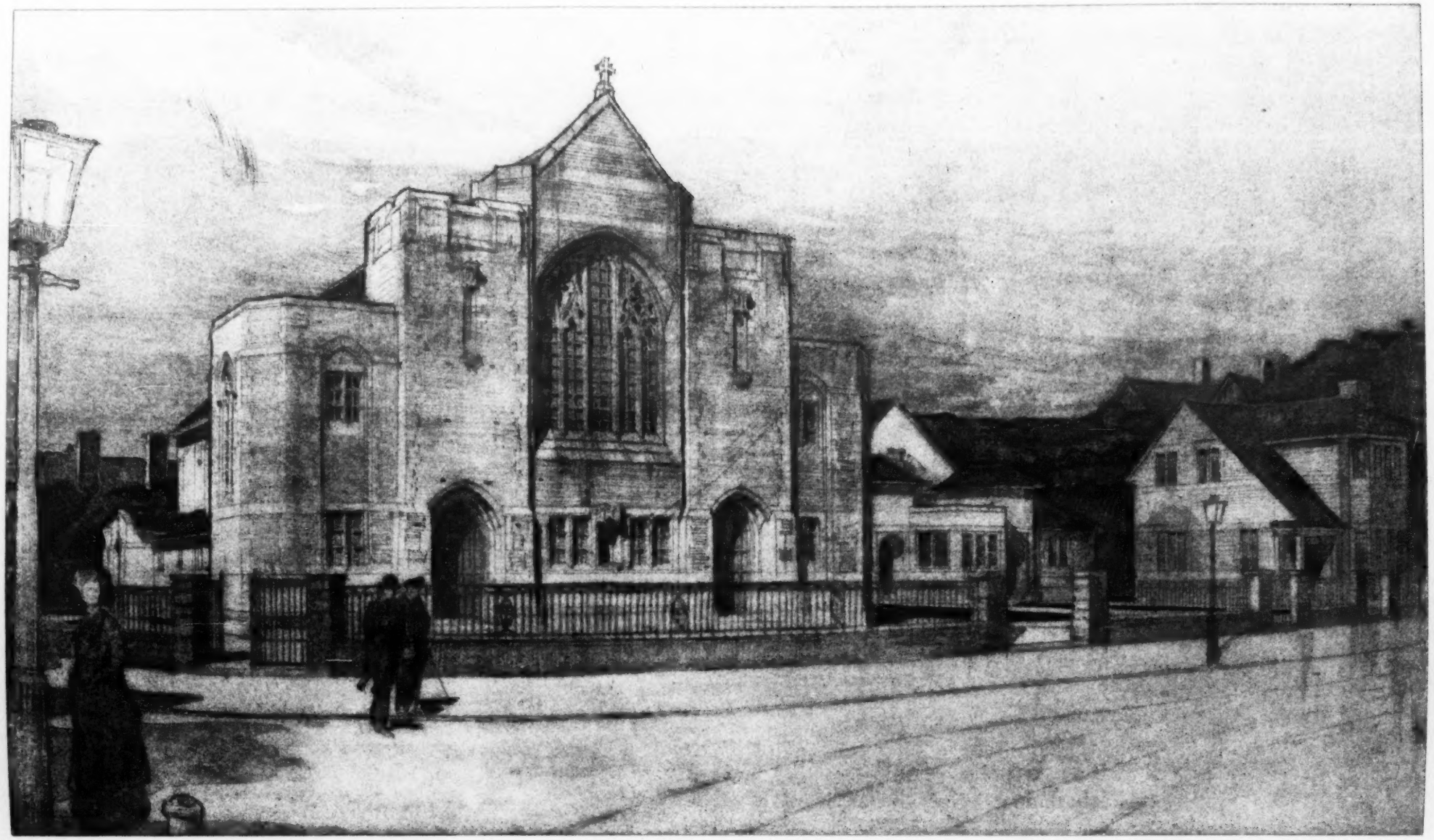
GATEWAY, BURY ST. EDMUNDS.—Drawn by Mr. P. D. Hepworth



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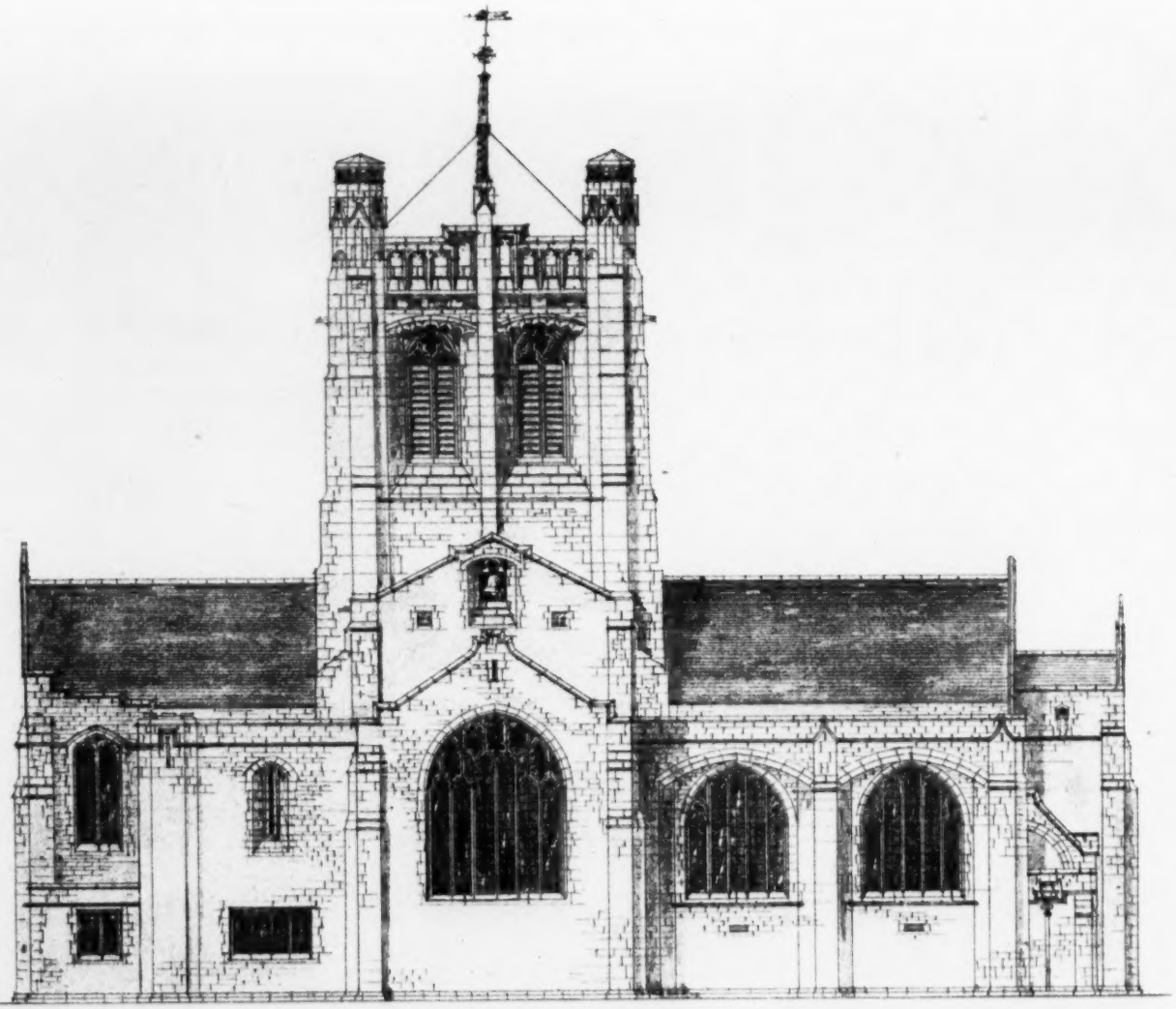
BAPTIST CHURCH AND SCHOOLS, NOTTINGHAM.—MESSRS. SUTTON & GREGORY, ARCHITECTS

BAPTIST CHURCH AND SCHOOLS, NOTTINGHAM. MESSRS. SUTTON & GREGORY, ARCHITECTS



'NORTH' ELEVATION'
To Hart Lane

'WEST' ELEVATION'
To Tunstall Avenue

scale of 10 0 10 20 30 40 50 60 70 80 90 feet

INK-PHOTO SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

SECOND PREMIATED DESIGN FOR CHURCH OF ST. LUKE, WEST HARTLEPOOL.

By Mr. J. H. Morton, F.R.I.B.A.

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Fig. 2. 30

MONTHLY REVIEW · *of* · ENGINEERING.

LIGHTING BY AIR-GAS.

ONE of the difficulties that had to be met, not so much now, however, as a few years ago, was the difficulty of providing suitable lighting for remote country houses. Where expense was no object and a gas plant could be installed the remedy was simple, or where there was a stream or waterfall a water-wheel could be employed to drive an electric dynamo; but in a great many cases where economy had to be studied, or water was not provided abundantly by nature, the tenants had to be content with oil lamps and paraffin stoves for lighting and cooking.

Although paraffin lamps have of late years been very much improved in design, their use is always attended with grave risks from

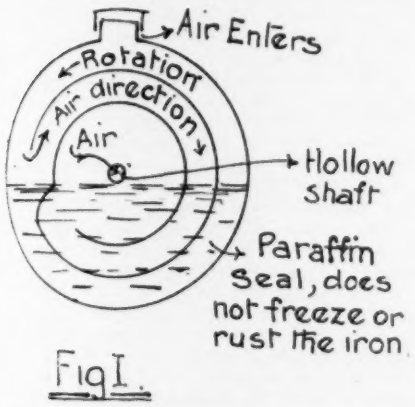


Fig I.

fires, many lives, especially children's, having to be debited to their employment.

Acetylene was the first attempt at a self-contained system of gas production, but it possessed many objectionable features, and first cost and upkeep rendered its general adoption impracticable.

For half a century it has been known that petrol vapour is highly inflammable, and when confined and mixed with air was capable of giving a good light, but it has not been until recent years harnessed in such a fashion that it can be employed with safety and the danger of explosion overcome.

The idea underlying the production is to intimately mix petrol vapour with air in such proportions that an inflammable mixture is produced and the proportions are 98½ per cent. of air to 1½ per cent. of petrol gas. This is delivered at the gas jets in the ordinary way and will not ignite in the ordinary way, but special burners have to be employed of the incandescent type. This mixture is practically odourless and is non-explosive. If it escapes into the room it is quite harmless, and further, as the air necessary for the light to exist is supplied in the mixture itself, the air in the room is not vitiated, a parallel to the ordinary electric light, and there are no products of combustion which are in any way injurious to furniture or pictures. As the machines producing the gas are small, a constant supply of air has to be provided, and the mechanical parts of the machine have to be carefully adjusted so that this is constant and bears the proper ratio to the volume of petrol vapour employed. For efficient working there are several factors necessary to a reliable machine, and in any machine the fewer the working parts the less the risk from breakdown. The machine being unattended, it must be capable of adjusting itself to the amount of gas required for the number of lights that may be in use. The machine should also be constructed that all the petrol used is properly vaporised with no waste resulting.

The machine should therefore be automatic in action and self-adjusting, and the working parts so simple that little attention is required and no skilled labour necessary once the machine is fixed. The apparatus being self-contained, the motive power should, once the machine has been started, be provided by the apparatus itself.

For this purpose the motive power is usually provided by means of a hot air engine heated by petrol vapour from the apparatus itself, or by means of a falling weight. The tank containing the petrol should be sealed and preferably should be filled by means of a pipe running outside the building containing the apparatus. The petrol is pumped from the tank into a chamber called the carburetting chamber into which it is admitted in the form of a spray, and ultimately mixed with air from an air-propeller. It then passes into a small gas-holder, from which it is delivered to the gas pipes, which may be of the usual type, and used in the ordinary way. The principal idea of all the machines is to pass a sufficient quantity of air into a chamber wherein it becomes properly petrolised to make it combustible.

One maker suggests the following as a standard test to be applied to any air-gas machine, the object being to see whether under varying conditions the supply of air-gas is equal to the demand and of uniform quality.

Run the machine with no burners lighted for five minutes and watch the blue test flame, then with one light burning for five minutes, and observe if the test flame remains uniform, then turn on one more burner and run the machine with two burners on for five minutes, and see if the test flame remains uniform in colour. Continue this up to twelve lights. Then turn on an additional ten at one time and watch the flame and see if it remains constant throughout. Then turn off the lights by tens until twelve remain, and turn off each of these one at a time, allowing five minutes' interval.

If the flame is constant throughout the machine may be considered saisfactory and sufficiently automatic to maintain a uniform quality of gas.

A more severe test is to turn on all the burners for five minutes with the main supply stock cock open, then turn off the main stock cock and see if the machine, after balancing, produces gas of uniform quality under both conditions.

The air is admitted in regulated quantities by means of a Root's blower, or as in the case of the Praed's patent air-gas machine, by a modification of the Wirtz pump. Fig. 1 will help to explain the working of this pump. There are four coils (one shown in section), which dip into a liquid seal. The air enters the outer casing freely, and as the coil revolves and its edge dips into a seal a certain quantity of air is cut off and can only escape through the hollow spindle of the coil, from whence it passes into the lower end of the carburetting chamber. The four coils are arranged so that these openings are at different points on the coil's circumference, so that in a sense there are no dead centres, air is constantly being supplied, the fresh-air trap forcing the air from the previous coil

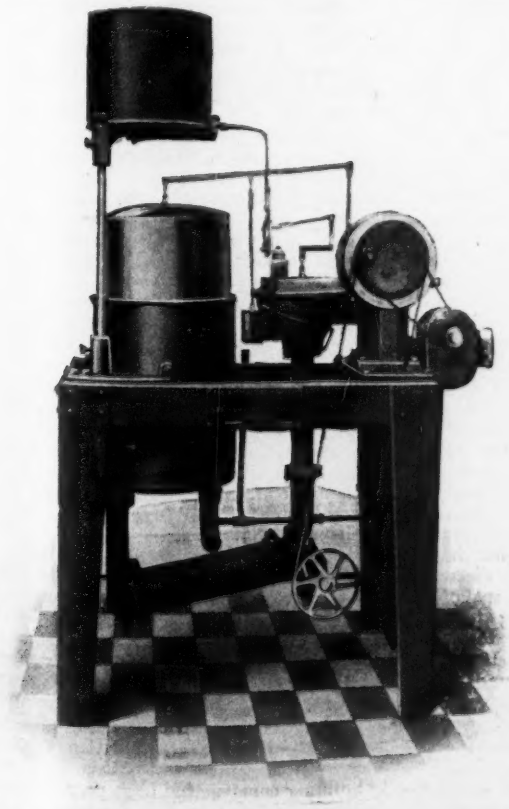


Fig. 2. 30-light Plant (The Machine Gas Company, Ltd.).

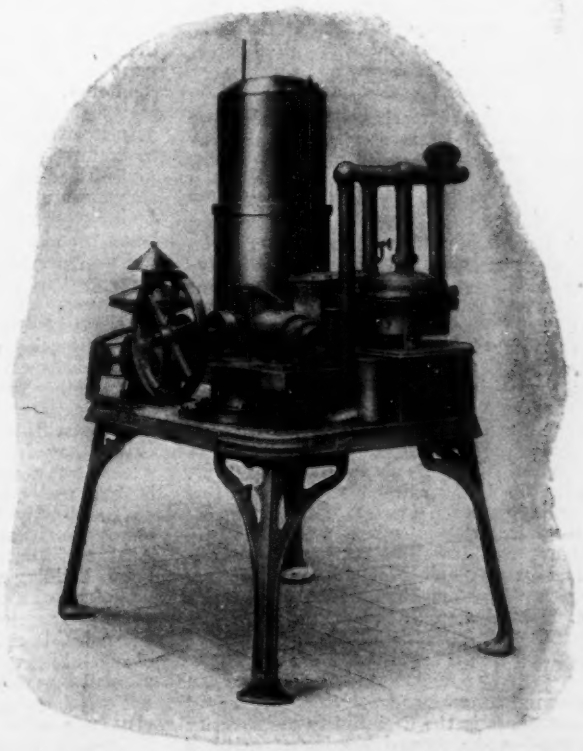


Fig. 3. The "Loco" Gas Machine (The "Loco" Vapour-Gas Light Company, Ltd.).

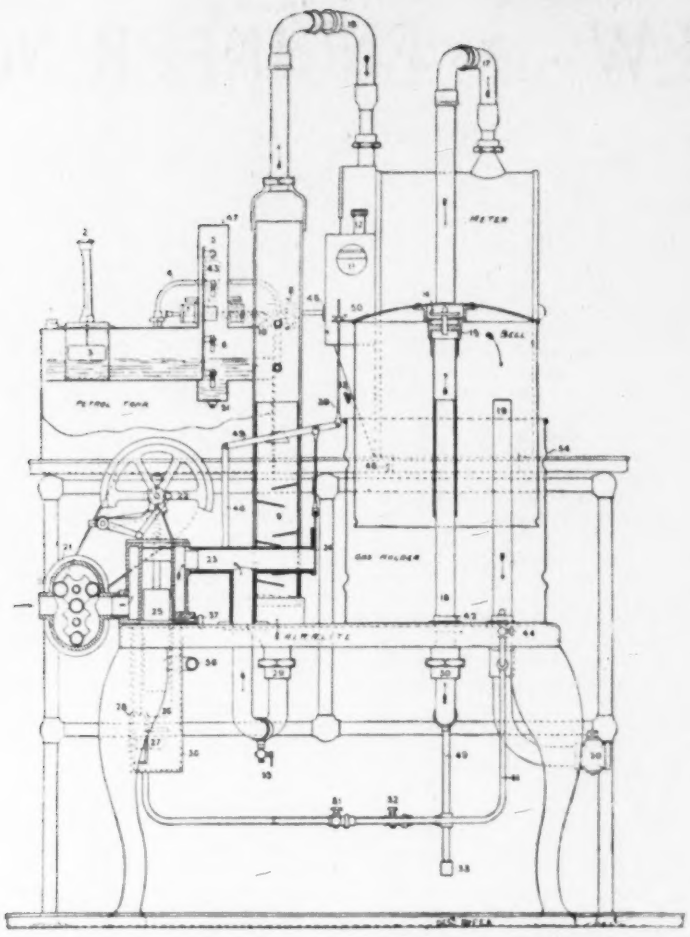


Fig. 4. Machine, by Messrs. Young & Co.

forward through the hollow shaft to the inner drum.

These machines take up very little room, about 3 ft. by 4 ft., and stand some 5 ft. high.

The cost of lighting by air-gas is shown by the following figures given by the "Loco" Vapour-Gas Light Company, Ltd. The prices are for maintaining a 100-candle-power light for ten hours, coal-gas being taken at 3s. per 1,000 cubic feet, electricity 3½d. per unit, petrol of specific gravity 695 at 1s. 3d. per gallon (present price 1s.).

	s.	d.
Acetylene	1	3
Electric incandescent.....	1	2
Flat flame coal-gas	1	0
Duplex oil lamp		7¼
Incandescent coal-gas ...		2½
Loco air-gas.....		1½

The prices of the machines vary according to the number of lights they are required to supply; a 20-light machine of 2,000-candle-power capacity or 200 cubic ft. per hour costing 31*l.* 10s. up to a 200-light plant giving 2,000 cubic ft. of gas for 200*l.* Cooking can be done by means of this gas by the employment of special stoves, boiling rings, and grillers, oven and stand costing about 5*l.*, and rings 6s. each. There is no extra charge made on insurance by the insurance companies for houses in which this gas is used.

The three illustrations, Figs. 2, 3, and 4, show three makes of these machines, of which there are several on the market, and which will give some idea of the arrangements of their parts. Fig. 2 shows Cox's patent, made by the Machine Gas Company, Ltd., of 180, Arlington-road, London, N.W.; Fig. 3, that made by the "Loco" Vapour-Gas Light Company, Ltd., of Newman-street, Oxford-street, London; and Fig. 4 shows Messrs. Young & Co.'s machine, of 161, Victoria-street, Westminster, S.W.

FOUNDATION LOADS.—IV.

A CONSIDERATION frequently arising in regard to foundations is the desirability or necessity of increasing the normal bearing capacity of the soil by one or other of various expedients available.

The most obvious means of attaining the desired result is to increase the depth of the foundation level, for, as a general rule, the compactness of soil increases with distance below the surface in consequence of the superimposed weight. In the course of a discussion on bridge foundations Sir Bradford Leslie referred to the heavy unit loads imposed on the soil by several structures of that class, saying that while loads of from 8 to 11 tons were sometimes objected to as excessive it was simply a matter of depth. Taking the 4¾ tons per square foot on the foundations of Blackfriars Bridge as an example, the speaker said that if the foundations had been carried 100 ft. deeper the weight could have been increased to 9¾ tons per square foot.

While increased depth is often advisable, especially in clay, it must not be forgotten that by penetrating through a hard and dry crust a soft and moist layer may be encountered. In such cases some other alternative should be adopted.

In isolated situations it may be permissible to improve the value of the soil in the direction of load-bearing qualities by drainage, an earthenware drain around the site of the building somewhat below foundation level being usually sufficient for the purpose. But the designer must take care not to do anything that may affect the stability of adjacent structures.

The serious trouble that may be caused by the abstraction of water is illustrated by the well-known case of St. Paul's Cathedral. Many other mishaps which illustrate the sensitive nature of the soil could be cited, but we will only mention two in passing. One is that of a wall in the East India Docks, which, for a length of some 700 ft., moved both laterally and vertically in consequence of an underlying bed of sand having been affected by excavations about ¼ mile distant. Another is furnished by the settlement of a large building in New York owing to the pumping of water on the site to provide water for boiler supplies. It may be pointed out also that the foundations of several heavy American buildings have been affected by excavations at some distance away, but near enough to cause the flow of soft clay from under the footings.

In many parts of the United Kingdom there are places where unstable soil, sometimes of considerable depth, extends up to the surface, or up to the level at which foundation loads are to be carried. The architect then has to decide whether it will be best to adopt a suitable method of consolidation or to employ widespread foundations with the object of reducing the unit load to safe proportions.

Dealing first with methods of consolidation, we will mention at the outset an interesting system described by M. Lefebre, and which has been applied with great success on the railway-line between Abbeville and Eu, and notably for treatment of the soil on which were erected various buildings for the new railway-station of Saint Omer, where the ground was of alluvial character with very low and variable resistance. The system consisted in the use of a series of concrete aprons built directly on the ground and loaded up with any convenient materials, causing pressure greater than that to be transmitted by the proposed building. As settlement occurred additional loading was added as found necessary. When movement ceased the loose material was removed and the superstructure erected. Simplicity and economy are stated as the advantages of the system, the chief disadvantage being the time lost in waiting for completion of the settlement, which, however, is far more conveniently dealt with before than after the construction of any building.

Another method of consolidation is to cover the surface of the soil with sand or gravel, preferably deposited in a shallow excavation somewhat larger in area than the site of the structure to be built. The chief recommendation of material applied in this manner is that its internal friction and distributing power serve a purpose akin to that fulfilled by spread foundations, and one particularly useful characteristic is the capacity of the layer to obviate the effects of local weakness in the underlying soil. As Sir Benjamin Baker pointed out a few years ago, the brick rubbish and other made ground which has formed on the surface of bad ground in old countries itself acts in a manner very similar to that of an artificial sand or gravel bed. Colonel Espitallier, a French military engineer, states the cost of preparing foundations for fortifications on soft mud by spreading a layer of sand at 18s. 6d. per square yard, as against eight times the same rate for piles and six times for caisson work. No rules can be given for computing the requisite thickness of the sand or gravel layer, this being a dimension which should be determined in accordance with individual circumstances.

Sand piles have been used with benefit in many places for consolidating unstable ground. They are readily formed by driving and immediately withdrawing timber piles and filling up the holes with clean, sharp sand, the effect of which is to maintain the compression caused by the process of pile-driving.

Plain concrete moulded in holes formed by driving has also been successfully adopted as an alternative to sand for compacting poor soils, the most recent development of the kind being that known as the Compressol system. That method, which has been employed largely by Continental engineers, requires expensive apparatus, consisting of a movable tower for hoisting and dropping pointed weights upon the site where the soil is to be consolidated. The perforating weight measures about 30 in. across the base, and, falling from any desired height of to 70 ft. or 80 ft., not only penetrates the ground, but exerts a powerful compressive effect. When the hole has been carried down to a sufficient depth concrete is rammed into the lower portion by another weight, the effect of which is to force the material laterally into the soil and to form an extended base for the concrete pier. The latter is built up by a similar process of ramming, and varies in diameter at different points according to the resistance of the soil. Therefore, in addition to its consolidation of the soil, the system has the further advantage of providing a series of piers supported in part by a wide base, and in part by friction and the mechanical bond afforded by the corrugated sides of the concrete.

Timber and reinforced concrete piles afford means of effecting consolidation in accordance with principles which have been applied in building construction from very early times. In clay and kindred soil short piles are effective for the purpose of increasing the bearing power, but in soft and sandy soil it is sometimes necessary to employ long

piles driven through the upper strata to a bed of harder material. Frequently, however, the skin friction of piles driven to refusal is relied upon for the support of very heavy loads.

Records concerning the frictional resistance of soils are particularly variable and not of much practical use to those who propose to employ piles for the purpose of consolidation. Nevertheless, they are of considerable interest as showing the important addition to the bearing power which can readily be secured by driving piles into poor ground.

From the data collected by Dr. Corthell we find that in ten cases of cylinder piers the average frictional resistance was 540 lb. per square foot, gravel having the maximum of 1,500 lb., and mud the minimum of 300 lb. For twenty-three masonry piers, the frictional resistance ranged from 300 lb. per square foot in sand and gravel to 1,000 lb. per square foot in sand and clay.

Taking the average value of, say, 560 lb. per square foot of pile surface, we get for a 12-in square pile the effective resistance of 1 ton per foot length. Consequently, it will be seen that a few piles from 20 ft. to 30 ft. long are capable of affording support for very considerable loads, which could not be imposed on treacherous soil without such aid.

Finally, we may appropriately mention another method of consolidation resembling the sand-layer system in principle, although really a form of foundation construction. We refer particularly to the raft or foundation slab of reinforced concrete moulded to cover the entire site, transferring the load uniformly to all parts of the soil and constituting a platform upon which the building may be said to float. Resting on a raft of this kind the structure is free from the risk of local subsidence, and its entire weight is utilised in compressing and consolidating the soil beneath. A certain amount of subsidence is always anticipated and provided for in the designs, so no ill consequences follow a small amount of vertical movement.

The design of foundations for different classes of buildings to be erected upon soil of varying nature is a subject too large for discussion in the present review. It is one, however, deserving special study in the present day, when new methods of building construction are being developed in all parts of the world for structures of almost every class. The intimate relation between foundations and foundation loads is too obvious for special comment, and we need only add the remark that in dealing practically with each subject experience and sound judgment are not less important aids than reliable data and theoretical knowledge.

THE COLLOIDAL NATURE OF CEMENT.

FAMILIAR as cement is to architects and builders, and much as its properties have been investigated by engineers and chemists, it cannot yet be said that the nature of this material is fully understood, or that the operations taking place during its setting and hardening are clearly recognised.

Among recent investigators Professor Rohland, of Stuttgart, has thrown useful light on these subjects. He shows that in the setting of cement two phenomena are evidenced in the initial stage: (i.) The formation of colloidal matter which presently coagulates; (ii.) the hydrolytic separation of calcium hydrate, which under the influence of carbon dioxide becomes calcium carbonate. The first phenomenon is the base upon which rest the plasticity, expansibility, water-tightness, and fire resistance of reinforced concrete, and the second phenomenon, Professor Rohland states, is the cause of the non-oxidation of steel embedded in concrete, and of the protection against, and absorption of, rust afforded by concrete.

The adaptability of concrete for being moulded into varied forms is attributed to the plasticity resulting from the presence of colloidal matter. In order that the plastic properties of cement may be fully developed it is necessary in preparing concrete to use an ample proportion of water, as colloidal substances are only separate from the cement after the addition of water. But it should be noted that if all the colloidal matter is coagulated and all water retained by the results of chemical reactions the concrete loses all plasticity.

Moreover, the presence of colloidal matter is regarded by Professor Rohland as essential to the adhesion bond between concrete and embedded steel. Some authorities attribute this bond to the direct adherence of concrete hardened upon the surface of the metal, others to the grip resulting from contraction of the concrete, and others again to the formation of calcium ferrite.

Professor Rohland considers the cause of adhesion to be rather that colloidal matter disengaged in the presence of steel coagulates instantly with intensity, enveloping the metal and clinging to it energetically. Neither crystalline nor amorphous substances are capable of the same effect and it is the property possessed by cement of assuming the colloidal form, that Professor Rohland believes to be the true cause of the adhesion between concrete and steel.

The impermeability of concrete is likewise attributed to the present of colloidal matter filling up the pores that would otherwise afford facilities for the passage of water. Nevertheless, all mixtures of concrete are not satisfactory from the standpoint of impermeability, a property that can only be attained by proportions which reduce voids to a minimum, and by thorough tamping. Experience shows that concrete need not contain more than 50 per cent. of mortar for properly graded aggregate. The proportion of cement should fill the voids in the sand and be sufficient to form an adequate quantity of colloidal matter at the time of mixing in presence of water. The matter coagulated by the reactions taking place during the setting of the cement acts similarly to glue or size in filling up interstices in the concrete.

Professor Rohland also attributes the low heat conductivity of concrete partly to coagulated colloidal matter, but points out that resistance to fire is not fully developed until water has been completely assimilated and the material has hardened thoroughly. The views to which attention is directed in this article may not have been generally adopted in this country, yet it is worthy of notice that the colloidal aspect of cement has received considerable study on the Continent for years past.

PURE CEMENT CONCRETE AS A LINING FOR KILNS.

MR. VALEUR has found that pure cement concrete possesses many advantages over other materials which have been used as linings for cement kilns. It is only called upon to resist the mechanical wear and tear of the sintered cement mass, which exerts no chemical effect upon it. The concrete is composed of two to three parts by weight of hard burnt cement clinker (the size of grain being from 2 mm. to 2 mm.=0·08 to 0·8 in.) and one or two parts by weight of ground, slow-setting cement, and is mixed with just enough water to cause the mass to cohere when pressed together. When such freshly-prepared concrete is heated to a temperature corresponding to a red or white heat it hardens quickly, remains hard at high temperatures, and retains its form and hardness, whether it be heated slowly or rapidly, in the sintering zone of a Dietzsch kiln in full work. The concrete begins to set in about an hour, and only about as much as can be used in that time is prepared at one time.

By using an iron ring about 40 cm. = 16 in. smaller diameter than that of the kiln as a mould, a concrete lining 20 cm.=8 in. thick can be conveniently rammed into the whole length of a rotary kiln. Such a rim of concrete 2·5 metres=10 ft. wide can be formed in a day and left to set overnight; the next morning the moulding ring is moved and a second concrete rim rammed against the first. Experience shows that no special care is needed in heating the kiln to its full working temperature and condition. A layer of cement concrete only 10 cm. = 4 in. thick, which was tried in the sintering zone of a rotary kiln for a period of fourteen days and then cooled, showed that a thin layer of cement had formed on the concrete and split away again on cooling, and the mechanical wear and tear amounted to 3 cm. = 1·2 in.; otherwise the concrete was intact.

As the molten basic cement does not act chemically on the concrete, it does not adhere to the latter as it does to a fireclay lining, except as to the cohesive effect of the ash contained in the coal used for firing.

A cement-concrete lining will last from three to six months in the sintering zone of a kiln, and is also suitable for the end shoot, which can be relined with concrete in an hour without interrupting the work, whereas relining with fireclay necessitates stopping and cooling the kiln. The concrete answers well not only with rotary kilns, but also with other types, such as the Dietzsch and Schneider. The lining can also be composed of blocks of concrete, kept ready for use, and mortared in with cement. The cost of repairing the concrete lining is much less than that of a fireclay, being only about 3s. 6d to 4s. 2d. per foot, against 68s. 3d. for fireclay lining, and the former is more durable. In actual practice the cost of repairing by the two methods compared as follows, per barrel of cement produced weighing 374 lb. :—

Lining employed in Kiln.	Dietzsch Kiln.	Schneider Kiln.
Fireclay lining.....	0·60	0·3
Cement concrete lining	0·08	0·09
Saving per ton of cement =6 barrels, in pence...	3·12	1·26

The process has been adopted in twenty-six works, and is patented in Germany and other countries.

REINFORCED CONCRETE.

A LECTURE on the subject of reinforced concrete was delivered by Mr. E. P. Wells, J.P., Concrete Institute, on March 18, at the London County Council School of Building, Ferndale-road, Brixton, S.W. The following is a summary of the lecture:—

The practical side of reinforced concrete, Mr. Wells contended, was of the utmost importance in view of the poor quality of workmanship ordinarily employed. The increase in the use of reinforced concrete since 1900 has been greatly due to the fact that architects, engineers, and others had become convinced of the possibilities of the material. It had been proved to be more economical than steel-frame construction used in buildings, in some cases a saving of from 15 to 20 per cent. being effected. The design of reinforced concrete opened out a great field for efficient instruction therein, which the London County Council School of Building was giving.

In reference to drawings, the lecturer advised the use of single lines, varying in thickness, for showing the reinforcement, the advantages being in preventing confusion, in being more quickly seen, in not tiring the eyes so readily as two lines, and in saving time.

Referring to materials, he stated that cement should be kept free from dampness, cold, or damp air, and stored in airtight bins, and that it should be tested directly it was delivered on the site of the works, and then, if quick use was required, three-day tests should be made. For soundness the Chatelier tests were sufficient.

An instance was referred to of some church foundations where, the cement having been hydrated before use, the concrete showed dampness throughout its entire length, and was easier to excavate after being down twenty years than the clay underneath it. The present-day cement was more liable to hydration than that of twelve to fifteen years ago, owing to its greater fineness. The sand used in concrete should be absolutely clean and free from dirt, and the grains should not be the same size; this would result in the concrete being more homogeneous, impervious to moisture, and stronger. Great care should be exercised in the selection of the water, which should be thoroughly clean and free from vegetable matter and salts that were deleterious to concrete; salt water itself did no harm, but it was advisable not to use it, owing to its hygroscopic nature. The steel employed should conform to the British Engineering Standards Committee's specification, and tests should always be made periodically to ensure that the quality did not fall off. It was advisable to have cubes

of concrete made on a job, and to test them, whatever the time of the year, keeping one set under laboratory conditions, and another under the same conditions as those under which the work was carried out. That would form a gauge as to when the concrete on the works reached the strength required to take up the stresses for which it was designed, so that it should be known when it was safe to remove the centering. The centering should not be made of light material, otherwise on removal it might be found that the sides would have bulged out and settlement taken place throughout the work. This was not only ugly, but required extra expense in plastering. Centering should be so constructed that it could be removed easily without having to cut out the timber. In some cases it was more costly to pull down than to put up. The area of the base plates under struts should be sufficient to carry all the loads on them, or else settlement would occur, which probably result in large sheer cracks in the beams over the supports and destruction of the adhesion between the steel and concrete. Once concrete was put into place it should on no account be disturbed. The centering should be left up for a minimum period of three weeks, except for floor slabs and the sides of beams, which might be removed within seven days, but should the compression tests disclose a low crushing, then the centering should be left in place from four to six weeks, or even longer. Efficient superintendents were essential if the work was to be carried out in the manner designed; lack of attention in this direction often resulted in serious accidents.

Referring to the placing of steel, the lecturer had sometimes employed small concrete blocks, slightly dovetailed in section and lightly reinforced, which were laid at the bottom of the beam casing, thus ensuring that the rods were the proper distance from the bottom and sides of the boxes, and preventing any displacement from the calculated positions required.

The concrete should be of a wet nature to enable it to flow readily round the reinforcement, and to do away with excessive ramming and liability of damage to the reinforcement. An advantage of using dry concrete was that it attained its maximum strength at a much earlier period than that of a wet nature, but at the same time oxidation of the steel might set in, due to the concrete being too porous, and also the adhesion in most cases would be weakened.

If, on removing centering, large aggregate were found on the surface with an insufficient amount of sand, then such portions should be covered with a wash of cement grout, and a one-to-one sand and cement mortar forced into the interstices and finished off with a wooden float. A mistake as regards floor finishing with granite or granolithic was to adopt too high a finish for the work, the consequence being that the initial set was broken up before the surface was completely finished. The remedy was to once trowel the floor and then leave it. But if a smooth surface were required it should be rubbed over with holystone and sand.

After the whole works were completed final testing by loading over at least two bays to an excess of 50 per cent. beyond that for which it was designed was often done. If the work had been carried out efficiently then the deflection of the floor noticed should, after the load had been taken off, be entirely recovered and return to its normal state.

ENGINEERING NOTES.

Reinforced Concrete Chimney at Short's-gardens, Drury-lane.

A CHIMNEY-STACK recently constructed by Messrs G. Trollope & Sons and Colls & Sons, Ltd., to distribute the exhaust from several internal-combustion engines, demonstrates the convenience of reinforced concrete in the design of tall chimneys. The shaft in question is 144 ft. 9 in. high by 5 ft. diameter outside, the flue having the diameter of 2 ft. 6 in. If built of brick and designed in accordance with sect. 65 of the London Building Act of 1894, the chimney would have been at least 12 ft. in diameter, a dimension which was impracticable in this case owing to the small space available. Consequently only two alternatives were open—(1) a self-supporting steel shaft and (2) a reinforced concrete chimney. As the former could not be approved as a permanent structure by the County Council, the latter was necessarily adopted. The following particulars are taken from an article in *Engineering* by Mr. Oscar Faber, A.M.Inst.C.E., engineer to Messrs. Trollope & Colls.

The lower portion of the chimney up to the flue entrance is 1 ft. 3 in. thick, and above that 6 in. thick, with a 5-in. firebrick lining and an air space 4 in. thick between it and the outside shell. Vent-holes near the flue entrance provide for an induced current of air in the space between the lining and the shell.

With the object of counteracting the stresses due to expansion, timber rings are embedded at intervals on the inside face of the concrete shell—a method patented by Mr. Faber and first adopted at the Burham Works of the Associated Portland Cement Manufacturers, where it appears to have been quite satisfactory.

The foundation was taken down 15 ft. below basement level, which itself is 14 ft. 9 in. below ground level, and, as it was necessary to underpin existing walls, it is in the form of a solid concrete block measuring 16 ft. 6 in. by 14 ft. by 15 ft. The firebrick lining consists of special bricks with a raised rib, 2 in. by ¾ in., fitting into a corresponding recess in the next course; other special bricks with side projections having been used at intervals of 10 ft. apart to keep the lining concentric with the outer shell. About ⅜-in. clearance was left between the projections and the shell to allow for expansion.

Adhesion between Concrete and Steel.

IN the paper on "Reinforced Concrete Columns" read by Mr. W. C. Popplewell, M.Sc., A.M.Inst.C.E., to the Institution of Civil Engineers, a feature is the section relating to the bond between concrete and embedded steel. Tests conducted by the author were made by pulling the end of rods embedded to depths of from 10 in. to 40 in., and the results obtained showed frictional resistances ranging from 243 lb. to 614 lb. per square inch of the surfaces in contact. In the case of the more deeply embedded rods the steel outside the concrete gave signs of failure, while the embedded metal was unaffected and showed no sign of movement. The experiments indicate that the grip of concrete cannot be maintained for long after the steel has begun to yield in tension. As steel is never stressed in practice up to more than about half the yield point there is no reason for fearing slipping of the reinforcement in beams, and it should be noted that in the case of compression bars the effect of stress is to increase the diameter of the steel and so to increase the frictional resistance to slipping.

Arica to La Paz Railway, South America.

THROUGH traffic for the distance of 280 miles is now opened across the Andes by the joining of the rail-ends near the frontier between Bolivia and Chili. The construction of the line was begun by the Chilian Government seven years ago; in 1909 Messrs. Sir John Jackson, Ltd., contracted to complete the works within three years, and to supply rolling stock, for 2,950,000*l*. The railway will be formally inaugurated on August 6. It has the metre gauge and passes through a waterless barren tract by steep gradients, rising to an altitude of 14,000 ft. About 25 miles of the line has a rack-rail.

Yield Point and Elastic Limit.

REPORT No. 56 of the Engineering Standards Committee is a leaflet containing definitions of the terms "yield point" and "elastic limit." It may not unreasonably be thought that such definitions are unnecessary as they are to be found in most text-books on applied mechanics and the strength of materials. But as requests had been made to the Committee for standard definitions they very properly decided upon the issue of the present report. The definition adopted for elastic limit is as follows:—"The elastic limit is the point at which the extensions cease to be proportional to the loads. In a stress-strain diagram plotted to a large scale it is the point where the diagram ceases to be a straight line and becomes curved." This definition is not free from objection, for the reason the law of proportionality between stress and strain does not apply perfectly to all materials fulfilling the conditions of elasticity as generally understood, and it would be preferable to define the elastic limit as the point at which a marked permanent set occurs in the course of testing. For practical purposes, however, the standard definition may be allowed to pass, because, as the report states, it is impossible to determine the limit in ordinary commercial testing. The definition adopted for yield point is: "The yield point is the point where the extension of the bar increases without increase of load." It should be noted that this point is beyond the elastic limit and is readily ascertained by the rapid augmentation of plastic deformation that occurs. As the plastic yielding of a material destroys its practical value for structural work the yield point is important as fixing a stress limit quite independent of that determined by applying a factor of safety to the ultimate resistance of the same material. The definitions may serve the useful purpose of emphasising the difference between the two limits, which are sometimes wrongly thought to be synonymous.

Tests of "Dentile" System Flooring.

ON March 7 last some floors recently constructed on the "Dentile" system for the Midland Carriage and Waggon Works, Birmingham, by Messrs. H. Arnold & Son, builders and contractors, Doncaster, were subjected to load tests with very satisfactory results.

The system in question, which is controlled by the Indented Bar and Concrete Engineering Company, Ltd., was described and illustrated in our issue of April 12, where readers will find all necessary details.

The first test was conducted upon an approximately square floor, measuring 17 ft. 10 in. by 16 ft. 7¼ in., reinforced in two directions and calculated for the working load of 100 lb. per square foot. The test load specified was 150 lb. per square foot, or 50 per cent. in excess of the normal loading. The material employed consisted of cement in bags, amounting in weight to 20 tons, and representing 152 lb. per square foot.

Deflection was carefully measured by a sliding vernier placed below the centre of the floor, and it was observed that the deflection increased very gradually during the progress of the test up to 0·07 in.

While the full test load was still in position the centre of the floor was exposed by the removal of a bag of cement, and five heavy blows were delivered upon it with a piece of timber 18 ft. long by 9 in. by 12 in. in cross section. This was lifted to a height of 2 ft. to 3 ft. and banged upon the floor by the united efforts of five men. The severe impact test had no apparent effect on the floor, in the form of cracks or other signs of damage.

The second test took place on a floor area of 16 ft. 7½ in. by 13 ft. 10 in., reinforced in the direction of the shorter dimension only. The full test load of 150 lb. per square foot, equal to 50 per cent. in excess of the normal load, caused deflection to the extent of no more than 0·01 in.

The successful nature of both the tests is sufficient to indicate the reliability of the "Dentile" flooring, a convenient feature of which is the absence of projecting beams over long spans, thus facilitating ceiling treatment by plastering or any other suitable method.

Electrical Wood Seasoning.

A NEW process of wood seasoning, which is said to be working in France, is given in an American Consular report. The process is given as follows: A large tank is filled with a solution containing 5 per cent. of resin, 10 per cent. of borax, with just a trace of carbonate of soda. At the bottom of the tank is a large lead-plate connected to the positive pole of a dynamo. Upon this plate the timber is stacked until the tank is full. Then another plate is superimposed upon the timber and connected with the other pole of the dynamo—the negative one.

The result is that when the current is turned on it passes through the stack of wood, from plate to plate, and in its passage it is said that the sap is driven out and the resin and borax takes its place, being deposited in the cells and interstices. After this operation is completed the timber is taken out and dried. It is then ready for use. The result, it is claimed, is highly satisfactory, for no matter how green the timber is before treatment, after treatment it is said to be completely seasoned.

THE BUILDING TRADE.

THE MODERN BRICKLAYER AND HIS WORK.

A LONG-STANDING complaint against trade unions is that they induce the workman to retard the progress of his work instead of giving his employer the full benefit of his ability. This complaint is so widely made that some explanation of it should be forthcoming. The question has recently been discussed with especial reference to the bricklaying industry, and some persons have had the impression that the unions had prescribed rules restricting the number of bricks to be laid in a day. It does not appear that rules of this kind have been officially sanctioned by any of the unions; but the impression prevails that trade-union influence is responsible for the alleged tardy performance of bricklayers' work.

In Gwilt's "Encyclopædia of Architecture" (1871) we read that "A bricklayer, with the assistance of one labourer, can, if he be so inclined, lay in one day about 1,000 bricks in common walling, but the trade unions now prevent him from laying more than about one-third that number." Present-day inquiries among builders have elicited the information given below. It may be remarked that the best results, both in speed and quality of work, are obtainable when the number of men employed is small. Careful selection of men, personal knowledge of them, and close supervision of their work are more difficult when large contracts are undertaken.

Replying to inquiries, one builder says that the men will not lay more than 300 bricks in a day "unless you watch them." Several others concur in stating that 500 bricks is the usual daily average in plain walling. An experienced foreman assures us that no man can lay 1,000 bricks in an eight-hours' day; the utmost is 500. "You may get 700 if you pick your man." An old bricklayer tells us that he has laid 700 in thick walls, where the facing forms only a small proportion of the work. With another builder the average was 500 in forming chimneys, which, we all know, is "tricky" work; and he has known 700 laid quite easily in 9-in. walls. Another says that he has a special man, paid 1s. 2d. per hour, who can lay 1,500 bricks in a day; but the crowning piece of information comes from a general foreman, who declares that he has seen two bricklayers dispose of 7,500 bricks in eight hours while building a party wall. It is possible that some of our readers may enlighten us further upon this subject.

If it be true that the modern bricklayer does not build at the same speed as his forefathers did, we should be led to expect that the more leisurely work would be better done. How far does experience confirm this expectation? Upon this point we quote the following observations by a correspondent, who apparently speaks from experience:—"We can judge the brickwork of sixty years ago when we see it demolished to-day, and compare it with the work that is being executed before our eyes. It cannot, of course, be maintained that there was no 'jerry' work in 1850 or thereabouts; but let anyone watch the destruction of walls in a good-class building of that date, and he will see that the perpends are almost invariably filled with mortar, while in modern work this is rather the exception than the rule. Observe the modern bricklayer building a wall. Upon his last course of bricks he spreads a thick bed of mortar ready for the next course. Each facing brick then receives a strip of mortar about an inch wide next to the front. All the other bricks are placed upon the bed without any mortar being spread upon them. For filling his perpends our bricklayer depends upon grout, which he pours over the bricks from a tin can. The grout, unless frequently stirred up, is of unequal consistency; but at the best, when it is set, it can only partly fill the perpends, leaving hollow spaces between the bricks, and a certain quantity of superfluous water, which dries out of the wall in time."

The alleged dilatory execution of work, apart from any official action of trade unions, might be expected to result from the existence of an organised combination, which necessarily assumes that all its members are, as workmen, equally competent. Where all are paid alike, the tendency for all is to give equal value for money received, and the doctrine that "every man has a right to an equal share of work" may induce men to leave some work undone for others to do. But a common complaint against the unions is that, while insisting upon an equal rate of wages for all members in any given trade, they afford no guarantee as to the efficiency of the labour to be supplied. Upon this point we may seek enlightenment from the rules of the Operative Bricklayers' Society. Here it is provided that a person desirous to enter the trade must do so before the age of seventeen, and must be legally bound apprentice. A candidate for membership of the Society, if between the ages of eighteen and twenty-one, must be able to prove that he has worked at the trade for three years, if of the age of twenty-two, for four years, and so on in like proportion. Members proposing and seconding a candidate for admission are required to "give such information as to his antecedents as will enable the branch officers to make such inquiries as may be necessary."

Although the last-named rule is open to a somewhat elastic interpretation, it may be fairly presumed that the Society, as at present constituted, does all in its power to ensure that none but competent bricklayers shall obtain membership. But something more than this appears to be needed. Two bricklayers can propose a third for election to the Society, but if all three believe, *e.g.*, that perpends can be properly filled with grout instead of mortar, there is scope for radical reform. We ought to feel that when union bricklayers are employed the highest class of workmanship is obtained, higher than is obtainable from the best of non-union men; and the unions should take a pride in making us feel this. Also, as regards celerity in work, if there is to be an unwritten rule governing the number of bricks to be laid in a day, it should prescribe the minimum rather than the maximum number.

THE MEDIÆVAL CARPENTER.

THE carpenter in the Middle Ages was a well-known member of city and village life. His position was apparently in those days far higher in the social scale than is the case to-day. An instance of a carpenter holding the position of churchwarden of a London parish is to be found in the records of the Church of St. Mary-at-Hill, published by the Early English Text Society. The main details of the will of another London carpenter, Thomas Warham by name, may be seen in Sharpe's "Calendar of Wills." Warham's will was made before 1482, and in it we see that he possessed sufficient property to bequeath a house and four gardens near Cornhill, in addition to other property.

With respect to the work of a mediæval carpenter many remaining records show us that it was, as it is to-day, of a very varied character. We find the following description of some work done by carpenters on a house at Hanworth, near Hounslow, in the time of Henry VIII. The original document is in the Public Record Office (Exch. Acc. 464-19):—

"Carpentares at viid. the day, Workyng as well to fell, hew & square xxii loodes of Elme tymber there felled, also in the workyng of vi loodes of ocken (oaken) tymber of store there lying, the which tymber mad Jyestes, bordes & planckes for stables & loftes to ley hey on; also to make a payre of stayres at the looge & xiiii bedstedes . . . gates, postes, with many other nessessaryes."

The bedsteads would be of the common four-poster and half-tester type.

In a manuscript at the Record Office (Exch. Acc. 474-12) we find set down details of work done in the Tower of London. Here we see that the carpenters employed made "ladders," "cradulles," "handebarrows," and "gynnes."

In MS. 488-22 we see that carpenters worked on windows and carts.

With regard to wages, the carpenter was very comfortably situated, if we bear in mind the fact of the far greater purchasing power of money then than in the present day.

In the erection or repair of a large building a considerable number of carpenters would be employed. Of these the chief warden would be paid at a rate of about 5s. a week and the warden 9d. a day, the ordinary carpenters getting 5d., 6d., 7d., and 8d. Apprentices were paid, according to their abilities or experience, at the rate of 5d., 6d., and 7d. a day. Richard Dee, working near Ewell, in the time of Henry VIII. got only 4d.

In MS. 479-11 is an entry describing the selecting and marking by the master carpenter of certain trees to be cut down. In this work on these trees subsequently the master carpenter received 12d. a day and the rest 6d.

An interesting entry in MS. 488-26 refers to the tools of carpenters:—

"To William Alawe, Watyrman (waterman), for bryngyng the said carpenters and their tulles and instruments."

In 1517 a number of carpenters crossed a ferry every day to get to their work, the fees to the ferryman being paid by the employer, the carpenters crossing every day from May to Michaelmas (MS. 488-16).

An outline of the life of a mediæval carpenter taken from mediæval records was printed in the *Builder* of July 21, 1911.

LONDON MASTER BUILDERS' ASSOCIATION.

A COUNCIL meeting of the London Master Builders' Association was held in the Council-chamber, Koh-i-Noor House, Kingsway, W.C., on Thursday, April 18, when the President (Mr. James S. Holliday) presided.

The President reported that the Special Committee and the Law and Parliamentary Committee had met, and would in due course submit their reports to the Council.

Correspondence relating to priced schedules with tenders, provisional sums in quantities, etc., was read and instructions given.

Various other trade matters of interest were considered.

Messrs. Messers, Ltd., were elected an Associate member of the Association, and the following firms were nominated for membership:—

1. Messrs. H. J. Carter, Ltd., as ordinary member.
2. Messrs. Bovis, Ltd., as ordinary member.
3. Mr. J. B. Smith, as Associate member.

BUILDING PLANS AND BUILDING PROSPECTS.

SO FAR as the returns of the plans deposited with the local authorities afford any indication of the condition of the building trade and its prospects, the outlook is not promising, and it is to be hoped that labour unrest will not make matters worse. The sum total of all plans deposited in the first quarter of 1912 is 3,487,425*l.*, as compared with 4,093,467*l.* in the corresponding quarter of last year. This is a decrease of 606,042*l.*, or 14·8 per cent. Decreases are shown in every class of building except workshops and factories, and in these the increase is 25·7 per cent. All districts show a decrease with the exception of Lancashire and Cheshire and Yorkshire. The decrease in dwelling-houses is very marked—463,486*l.*, or 23·5 per cent.—and it appears to occur in all districts.

GOVERNMENT CONTRACTS.

THE following tenders have been accepted during the past month by the Government Departments named:—*Admiralty, Works Department:* Steelwork for reinforced concrete piles, Devonport—Britannia Reinforced Concrete Engineering Company, Ltd., 196, Deansgate, Manchester; works services: caissons for lock, docks, and basin, Rosyth—Sir William Arrol & Co., Ltd., Dalmarnock Ironworks, Glasgow; foundations for steel oil tanks—Mr. G. Hall, Back Hilton-road, Aberdeen; reinforced concrete pier, R.N.O. Depôt, Crombie—Messrs. R. Bruce & Sons, 25, Greenside-place, Edinburgh; sluices and their roller paths—Sir William Arrol & Co., Ltd., Dalmarnock Ironworks, Glasgow; steel oil tanks—Messrs. Clayton, Sons, & Co., Ltd., Moore End Works, Hunslet, Leeds; three pairs of aeroplane sheds—Mr. W. Harbrow, South Bermondsey, S.E. *Admiralty, Contract Department:* Water-closets and gear—Messrs. Shanks & Co., Ltd., Tubal Works, Barrhead, Glasgow; Messrs. Doulton & Co., Ltd., Albert-embankment, Lambeth, S.E.; Leeds Fireclay Company, Ltd., Wortley, Leeds; Messrs. G. Howson & Sons, Ltd., Eastwood Sanitary Works, Hanley, Stoke-on-Trent; Messrs. Wallace & Connell, 65, McAlpine-street, Glasgow; Messrs. J. Stone & Co., Ltd., Deptford, S.E. *War Office:* Works services: additional story, R.A.M.C. Barrack Block, Shorncliffe—Mr. T. T. Denne, Walmer; aeroplane repair shop, South Farnborough—Mr. W. Harbrow, South Bermondsey, S.E.; airship shed, Army Aircraft Factory, South Farnborough—Messrs. Hill & Smith, Ltd., Brierley Hill, Staffs; alterations to married soldiers' quarters, Winchester—Mr. J. Hunt, Gosport; alterations to recreation establishment, etc., Town Barracks, Exeter—Messrs. Woodman & Son, Bartholomew-street, Exeter; annexes, etc., Abbey Field married soldiers' quarters, Colchester—Messrs. Parkington & Son, 61, Crown-street, Ipswich; annexes, married soldiers' quarters, Oxford—Messrs. G. S. Lewis & Sons, Castle-street, Reading; artificer's work at Cahir—Mr. Thomas O'Farrel, Barrack-street, Cahir; artificer's work, Chester—Mr. Robert Gregg, 78, Lower Bridge-street, Chester; artificer's work, Finner—Mr. James McBride, East Port, Ballyshannon; artificer's work, Hounslow and London — General Building Company, 45, Chandos-street, W.C.; artificer's work, Mullingar—Mr. Charles Doyle, Austin Friars, Mullingar; artificer's work, Shrewsbury—Messrs. J. C. Vaughan & Son, 27, Commercial-street, Hereford; artificer's work, Templemore—Mr. Thomas Dwan, Main-street, Templemore; artificer's work, Tipperary—Mr. John Cavanagh, James-street, Tipperary; artificer's work, Wrexham—Mr. W. E. Samuel, Market-street, Wrexham; aviation school buildings (huts, aeroplane sheds, etc.), Salisbury Plain—Mr. W. Harbrow, South Bermondsey, S.E.; building materials, etc., for artificer's work at Trawsfynydd—Messrs. J. C. Vaughan & Son, 27, Commercial-street, Hereford; concrete foundations for stop butts, Rainham—Messrs. Ashby & Horner, 8, Aldgate, E.; waggon sheds and porch for Duke of York's Headquarters, Chelsea—Messrs. C. W. Bovis & Co., Ltd., 1, New-street, Upper Baker-street, N.W. *Prison Commission:* Building materials for masons', bricklayers', plasterers', and slaterers' work—Messrs. Avery Brothers, 15, Staple-gardens, Winchester; Mr. J. W. Baird, Higher Town, Knutsford; Messrs. Borden & Head, 12, Union-street, Maidstone; Messrs. William Bell & Sons, 2, Downing-street, Cambridge; Mr. F. Bennett, New-street Works, Ipswich; Executors of Mr. R. Bowen, Leamington; Messrs. J. T. C. Brown & Sons, 70, Fore-street, Bodmin; Mr. S. Buy, 224, Westgate-road, Newcastle-on-Tyne; Messrs. J. Byard & Sons, Stroud-road, Gloucester; Messrs. Carter Brothers, 150, Castleton-road, Preston; Messrs. W. E. Chivers & Sons, Devizes; Mr. C. Cooke, St. Owen-street, Hereford; Messrs. J. Corby & Sons, 27, Tavistock-street, Bedford; Mr. G. Crook, 65, Henry-street, Wakefield; Messrs. T. Cross & Sons, 36, King-street, Lancaster; Mr. R. Dine, 1B, Shelley-terrace, Lewes; Messrs. G. Duxbury & Co., 73, Churchgate, Leicester; Mr. H. A. Evans, Goldsmith-avenue, Portsmouth; Mr. F. T. Gentry, Broad-street, Canterbury; Messrs. Gradon & Son, North-road, Durham; Messrs. J. A. Hesford, Ltd., 36, Cannon-street, Birmingham; Messrs. James Brothers & Co., Ltd., Tamar Wharf, Devonport; Messrs. Johnson & Hawkes, Phœnix Works, New-street, Chelmsford; Messrs T. H Kingerley & Sons, Oxford; Messrs. J. Knowles & Co. (London), Ltd., 38, King's-road, St. Pancras, N.W.; Messrs. Lacey & Lincoln, Ltd., Norwich; Messrs. J. Laing & Son, Milbourne-street, Carlisle; Messrs. Lansdown & Son, Melville-street, Lincoln; Mr. J. T. Levitt, 84, Holderness-road, Hull; Mr. L. R. Lucas, Maryport-street, Usk; Messrs. W. Maule & Co., Huntingdon-road, Nottingham; Messrs. C. Miskin & Sons, Ltd., Romeland, St. Albans; Messrs. C. M. Moxham & Co., Oystermouth-road, Swansea; Mr. T. Pace, Eaton-hill, Shrewsbury; Mr. E. Parry, Ty Gwyn, Carnarvon; Mr. J. J. Patten, 1, Greenhill-terrace, Portland; Mr. W. C. Pemberton, Wolverhampton-road, Stafford; Messrs. J. H. Prelle, Ltd., 67, Dale-street, Liverpool; Messrs. W. Radcliffe & Son, Birch-lane, Manchester; Mr. S. Roach, 87, Union-street, Plymouth; Mr. E. A. Rogers, 15, Queen-street, Carmarthen; Messrs. Smith & Marchant, Market-place, Shepton Mallet; Mr. T. Stennard, 183B, Gloucester-road, Horfield, Bristol; Messrs. J. Stockdale & Son, Northallerton; Messrs. Slocombe, Williams, & Co., East-yard, Bute-terrace, Cardiff; Mr. W. G. Stovey, 19, Durngate-street, Dorchester; Mr. J. Walker, Wesley-road, Armley, Leeds; Messrs. Walker & Slater, Uttoxeter Old-road, Derby; Messrs. Warmsley & Co., Ltd., Bangor Wharf, 90, King's-road, Reading; Messrs. W. Webb & Co., Railway-street, Chatham; Messrs. Webster & Cannon, Cambridge-street, Aylesbury; Messrs. Westcott, Austin, & White, Exeter; Mr. E. Whittaker, 76, Wellingborough-road, Northampton; Messrs. Wiggins & Co., Chancellor's Wharf, Hammersmith, W.; Messrs. Williams Brothers, Borthyn, Ruthin; Messrs. J. Wood & Sons (Worcester), Ltd., Worcester; building material for carpenters' and joiners' work—Messrs. Ashbee, Sons, & Co., Bristol-road, Gloucester; Messrs. Bartlett Brothers, Castle House, Carmarthen; Messrs. R. & R. Bayly, Plymouth; Mr. J. Elgy, Gilesgate, Durham; Messrs. Fox, Shott, & Co., Ltd., Great Western Docks, Plymouth; Mr. J. Hayes, Abbey Foregate, Shrewsbury; Messrs. William Marshall & Son, 256, Old-street, E.C.; Mr. J. Moore, 341, Holderness-road, Hull; Mr. F. Newbury, 292, King's-road, Reading; Messrs. H. Newsum, Sons, & Co., Ltd., City Saw Mills, Lincoln; Messrs. J. C. Richards & Co., Hall-place, Paddington Green, W.; Messrs. Webb, Major, & Co., Weymouth; Messrs. R. S. Wright & Sons, Queen-square, Lancaster; building materials for painters', plumbers', and glaziers' work—Messrs. T. & W. Farmiloe, Ltd., Rochester-row, Westminster, S.W.; Messrs. Middleton Brothers, St. George, E.; building materials for ironmongers', smiths', founders', bell-hangers', and gasfitters' works—Messrs. R. Atwill & Son, 33, Russell-street, Plymouth; Messrs. J. B. Hallmark & Son, Ltd., 114, Fishergate, Preston; Messrs. E. Hughes & Son, 30, Bridge-street, Carnarvon; Messrs. Pryke & Palmer, 40, Upper Thames-street, E.C. *India Office, Store Department:* Bridgework—Tees Side Bridge, etc., Company, Middlesbrough; spans — Messrs. P. & W. Maclellan, Glasgow; Motherwell Bridge Company, Motherwell. *Crown Agents for the Colonies:* Cement—The Associated Portland Cement Manufacturers (1900), Ltd., 8, Lloyd's-avenue, E.C.; British Portland Cement Manufacturers, Ltd. (Barrow's Branch), 6, Lloyd's-avenue, E.C.; Messrs. Peter Brothers, 72, Victoria-street, S.W.; lavatory fittings—Messrs. J. Beresford & Son, Cato-street Works, Vauxhall, Birmingham. *Office of Works:* Builder's work, alterations, and extensions, Edinburgh Central Telephone Exchange—Messrs. J. Angus & Sons, 6, West End-place, Edinburgh; reconstruction of North Octagon Temperate House, Kew Gardens—Mr. W. J. Wilkinson, Swan-road, West Drayton; enlargement, Nuneaton Post-office—Messrs. W. Bowers & Co., Bath-street, Hereford; erection Purley Oaks new sorting office—Messrs. J. Smith & Sons, Ltd., Junction Works, South Norwood; erection new telephone exchange, Attercliffe, Sheffield—Mr. J. W. Wildgoose, Rutland-street, Matlock; extension (third contract), South Western District Post-office—Messrs. Galbraith Brothers, Ltd., Camberwell-green Works, S.E.; adaptation, West Bromwich Labour Exchange—Mr. J. E. Harper, 76-8, Lombard-street, Birmingham; erection of water-tower, Windsor Castle Waterworks—Messrs. Holloway Brothers (London), Ltd., Belvedere-road, Lambeth, S.E.; drainage, Mount Pleasant Parcel Office—Messrs. Sheffield Brothers, Downs Park-road, Dalston, N.E.; steel casements and lantern lights, Birmingham Telegraph Stores—Messrs. C. Wragge, Ltd., 209, Shaftesbury-avenue, W.C. *General Post Office:* Laying lines of pipes at Margate—Messrs. J. Mowlem & Co., Ltd., Grosvenor Wharf, Westminster, S.W.; laying lines of pipes, Croydon to Wallington—Messrs. Clough, Smith, & Co., Ltd., Spencer House, South-place, E.C.

ROMAN CATHOLIC CHURCH, SOUTHPORT.

This new church has been designed in the early Gothic style, and will provide accommodation for 450 people. Mr. Alfred Gilbertson, of Liverpool, is the architect for the work.

LABOUR IN THE BUILDING TRADE.

A CONFERENCE of a preliminary character was held at Essex Hall, London, W.C., on the 18th inst., to consider whether it was possible to arrange an amalgamation of the unions in the building trade. Mr. W. Thorne, M.P., Chairman of the Parliamentary Committee of the Trades Union Congress, presided, and twenty-one trade unions were represented.

The following resolution was agreed to:—"That this Conference expresses its adherence to the resolutions passed by the last Trade Union Congresses, embodying the principle of amalgamating the present trade unions in the various industries, and, therefore, we, the representatives of the Building Trade Unions, consider the time is now opportune to put the principle into effect in our industry, and that a Committee be appointed, to consist of one member from each society represented, to draw up a scheme to give effect to the previous resolution, such scheme to be submitted to the next Conference."

The Committee will meet in Manchester on May 23.

A mass meeting of workers employed in the building and woodworking industry was held on the 14th inst. in the Grand Theatre, Manchester.

The following resolution was adopted:—"That this meeting of workers employed in the building and woodworking industry hereby pledges itself to render support to the present efforts being made to strengthen the membership and unite into a solid organisation the whole of the workers in this industry. It further records its determination to help, aid, and assist by every means in its power the branches of the industry in the present struggle for improved wages and shorter hours and to refrain from any act which is likely to assist the employers in the present dispute."

As already announced, employers in the Manchester and Salford district have been asked by the carpenters and joiners—with whom bricklayers and others are in sympathy—for an advance of wages, and failing the concession of this request the workmen are to lay down their tools on May 1 next.

A deputation representative of the bricklayers, plumbers, painters, working machinists, and general labourers met members of the Cardiff Master Builders' Association recently and submitted their request in support of their application for an alteration in the existing code of working rules. At the close the masters intimated that they would give further consideration to the application and give their reply at a very early date.

GENERAL BUILDING NEWS.

COLLEGE OF ART, EDINBURGH.

The Edinburgh College of Art, Lauriston, has been erected from the designs of Mr. J. Dick Peddie, at a cost of 80,000*l.* The building has a frontage of 350 ft., the façade is of classic design, the walls are of red sandstone, and the roof is covered with soft green slates. There is a large sculpture hall, 100 ft. long and 60 ft. broad, and other rooms in the building include an antique-room, architectural halls, museum, dining-hall, etc. The college is heated on a hot-water system with radiators and lighted by electricity.

PROPOSED NEW SCHOOLS IN GLASGOW.

The School Board of Glasgow have decided to proceed with four new building schemes. Of these, some are for entirely new buildings, while others are additions to existing structures. The following four firms of architects have received the commissions for the various works:—Messrs. MacWhannell, Rogerson, & Reid, Messrs. Hutton & Taylor, Messrs. Bryden & Robertson, and Mr. Alex. Skirving, all of Glasgow. We understand that the school with which Messrs. MacWhannell, Rogerson, & Reid are entrusted is to be a new one, costing about 20,000*l.*, while the one which Messrs. Hutton & Taylor are designing is a special building for defective children, the cost of which will be from 8,000*l.* to 10,000*l.*

SCHOOL, BROXBURN.

This school has been erected at a cost of about 7,500*l.*, and provides accommodation for 700 pupils. The building contains staff-rooms, cloakrooms, fourteen classrooms, and a central hall 43 ft. by 39 ft., the whole being heated throughout by hot water on the low-pressure system. The architect for the work was Mr. W. Constable, of Edinburgh.

TECHNICAL INSTITUTE, NEWMARKET.

The designs for this institute were prepared by the Urban Council's Surveyor, Mr. C. H. Warthorn, and the contract is being carried

out by Mr. H. J. Lingell, builder, of Newmarket. The foundation-stone of the building was laid last Friday.

THEATRE ROYAL, YORK.

Additions are being carried out at this theatre at a cost of about 400*l.* from the plans prepared by the City Surveyor. The new work includes a side entrance and scene dock, with emergency exits from the pit stalls and pit. The contractors for the work are Messrs. W. Fairweather & Son.

NEW COTTAGE HOSPITAL, WIMBLEDON.

The Wimbledon Cottage Hospital erected at Copse-hill has been designed by Mr. T. G. Jackson, R.A., and has cost about 8,600*l.* There are six public wards, besides private and children's wards, operating theatre, surgery, kitchens, etc. The contract was carried out by Messrs. Holloway Brothers.

THE PALACE PIER, BRIGHTON.

Messrs. Clayton & Black, of Brighton, are the architects for the new winter gardens which have been erected and for other improvements carried out at the Palace Pier. The work has been executed at a cost of about 40,000*l.*, and the various contractors were:—Carpentering and the woodwork, Bostel Brothers, of Brighton; constructional ironwork, the British Steam Metal Company; iron and steel work, Messrs. Braithwaite & Kirk; mosaic floor, Messrs. Diespeker & Co.; heating, Messrs. Phillips & Son, Ltd.; electric lighting, Messrs. Page & Miles; zincwork, Messrs. Gooding & Taylor; sanitary work, Messrs. Prior & Co.

MUNICIPAL BUILDINGS, PAISLEY.

The extensions to these buildings are being carried out from plans prepared by Mr. James Lee, C.E., and comprise an extension of the Town Chamberlain's department, an inquiry department, committee-room, waiting-room, and a smoking-room. The estimated cost of the work is 2,300*l.*

IMPROVEMENTS AT CHESTERFIELD.

New offices are being erected in the Derby-road, Chesterfield, for the engineering firm of Messrs. Bryan, Donkin, & Co., at a cost of 2,000*l.* The building has been designed by Mr. T. S. Wilcockson, architect, of Chesterfield, and the contract was secured by Mr. W. Randall, builder, of Hasland.

NEW BUILDINGS IN LONDON.

Church (first portion, 6,500*l.*), Finchley, N.: Mr. J. S. Alder, architect, 1, Arundel-street, Strand, W.C. Church (7,000*l.*), Acton Green, W.; Mr. W. A. Pite, architect, Jermyn-street, St. James's, S.W. Gymnasium (2,000*l.*), adjoining Great Eastern Railway-station, Forest Gate, E.; Secretary, Y.M.C.A., Forest Gate, E. Buildings, St. Andrew's-hill, E.C.; Messrs. Howell J. Williams, builders, 11-7, Bermondsey-street, S.E. Congregational Sunday-schools, Algernon-road, Lewisham, S.E. (1,500*l.*); Mr. Walter Box, Building Treasurer, "Braeside," Tranquil-vale, Blackheath, S.E.

TRADE NEWS.

Under the direction of Mr. W. J. Fennell, architect, Belfast, the "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump" ventilators and air inlets, has been applied to Hildon Schools, Belfast.

The new schools, Wakefield, are being supplied with Shorland's patent exhaust roof ventilators, by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABERDEEN.—Training centre (47,000*l.*); Mr. J. A. O. Allen, architect, Union-street, Aberdeen.

Airdrie.—Municipal buildings; Mr. Hugh Inglis, Surveyor, Burgh-buildings, Airdrie.

Almondsbury.—School; Mr. R. S. Phillips, architect, The Cross, Gloucester.

Ashbourne.—Picture-house, King Edward-street; Mr. G. Wilson, Ashbourne.

Barnsley.—Extensions to baths (6,300*l.*); Mr. H. Burgess, architect, Westminster.

Belper.—Mission hall (1,000*l.*); Rev. S. H. Clark, Vicar, St. Peter's Church, Belper.

Birkenhead.—Mills for Messrs. J. Bank, Ltd.; Mr. W. H. Brocklesby, builder, Hull.

Birmingham. — School, Ellen-street; Mr. J. A. Turton, builder, Wheeley-road, Birmingham. Cottage baths, Dartmouth-street; Mr. H. Stilgoe, City Engineer, Town Hall, Birmingham.

Bodmin.—Isolation hospital; Mr. W. A. Pollard, Surveyor, Urban District Council Offices, Wadebridge.

Bourne.—Isolation hospital; Mr. A. R. Agnew, Surveyor, Urban District Council Offices, Bourne.

Bournemouth.—Additions to ice factory, Palmerston-road, for the Bournemouth Ice and Cold Storage Company. Additions to Victoria Hotel, Commercial-road, for Messrs. Eldridge, Pope, & Co.

Briston.—Six houses (905*l.*); Mr. Thomas H. Blythe, builder, Foulsham.

Bucknall (Stoke-on-Trent).—Relief-station; Mr. C. Daniel, Clerk, Stoke Board of Guardians, Shelton, Stoke.

Burslem.—White Swan Inn; Messrs. Grants, builders, Moorland-road, Burslem.

Carrickmacross.—Convent chapel; Mr. J. J. McDonnell, architect, Chichester-street, Belfast.

Chirk (Denbighshire).—Drill hall, etc., for the 4th Territorial Battalion Royal Welsh Fusiliers.

Clarkston.—Police-station; Messrs. G. Arthur & Sons, architects, 4, Graham-street, Airdrie.

Coleshill (Birmingham).—Additions, hospital; Mr. H. T. Sandy, architect, 22, Greengate, Stafford.

Copnor.—School, Tangier-road (3,135*l.*); Messrs. J. J. Bascombe and H. E. Curtis, Joint Secretaries, Education Committee, Town Hall, Portsmouth.

Dartford.—Alterations to infirmary (440*l.*); Messrs. Tait & Hobbs, architects, 2, Lowfield-street, Dartford.

Deeping St. James.—Houses; Mr. D. Gray, builder, 130, Lincoln-road, Peterborough.

Dinnington and Rossington.—Schools; Mr. J. Stuart, architect, Shire Hall, Wakefield.

Dudley.—Church, parish hall, etc.; Messrs. Chatwin & Son, architects, 128, Colmore-row, Birmingham. Additions, parish church (7,000*l.*); Rev. A. Maitland, Vicar.

East Ardsley.—Mill for Messrs. T. Ambler & Sons.

Edinburgh.—Picture-house, Dalry-road, for the Haymarket Picture-House Company.

Epsom (Surrey).—Court-house; Mr. A. Dryland, Surveyor, Surrey County Hall, Kingston-on-Thames.

Errol.—School: Mr. J. Marshall, architect, 28, Scott-street, Perth, N.B.

Farnworth.—Extensions to mill, New Bury, for the Century Spinning Company.

Foleshill.—Additions to factory for Messrs. R. White & Sons.

Great Harwood.—School, Rushton-street: Rev. Father Hill, B.A., Great Harwood.

Greet (Birmingham).—Electric light station; Messrs. W. & J. Webb, builders, Great King-street, Birmingham.

Hawick.—Municipal lodging-house (1,000*l.*); Mr. W. B. Gilroy, Surveyor, Burgh-buildings, Hawick.

Hawkser.—Alterations to Wesleyan Chapel; Messrs. R. A. Wilson & Sons, architects, Whitby.

Haworth.—Public abbatoirs (1,000*l.*); Mr. James Redman, Surveyor, Urban District Council Offices, Haworth.

Heckmondwike.—Premises (7,000*l.*); Secretary, Co-operative Society, Heckmondwike.

Helensburgh.—Two houses; Messrs. Mitchell & Whitelaw, architect, St. Vincent-street, Glasgow.

Hindpool.—School; Mr. A. Race, Surveyor, Town Hall, Barrow-in-Furness.

Horncastle.—Court-house (1,072*l.*); Messrs. Sutton & Horton, builders, Horncastle.

Hove.—Theatre, Holland-street; Messrs. Gilbert & Constanduros, architects, 43, Finsbury-square, E.C.

Hyde.—Extensions to brewery, Cheapside, for Messrs. C. Crease & Co.

Larne.—Extensions to buildings for the Larne Weaving Company.

Littleborough.—Extensions to Rock Nook Mill for the Sladen Wood Mill Company, Ltd.

Limavady.—Court-house; Mr. C. L. Boddie, architect, Limavady.

Low Fell.—Presbyterian church; Messrs. Harrison & Ash, architects, Newcastle-on-Tyne.

Middlesbrough.—Reconstruction of cycle works and garage, Grange-road, for Messrs. Carling & Sons.

Monmouth.—Extension, Grammar School (2,200*l.*); Messrs. Willcock & Co., builders, Darlington-street, Wolverhampton.

Oakham.—Enlargement of school; Messrs. Nichols Brothers, builders, Oakham.

Paisley.—Municipal buildings (2,300*l.*); Mr. James Lee, Master of Works, Burgh Hall, Paisley. Threadmill for Messrs. J. & P. Coates, Paisley.

Pallion.—Additions at shipbuilding yard for Messrs. William Doxford & Sons.

Port Erroll (Cruden).—School; Mr. A. H. L. Mackinnon, architect, Aberdeen.

Portheawl (Glam.).—Church (5,000*l.*); Mr. G. Halliday, architect, Castle-street, Cardiff.

Preston.—Spinning shed (800 looms), Bold-street, for Messrs. J. & A. Leigh.

Purston.—One hundred and fifty-nine houses (33,000*l.*); Mr. S. Chesney, Surveyor, Urban District Council Offices, Featherstone, Yorks.

Rawtenstall.—Extension, market hall; Mr. J. Johnson, Surveyor, Town Hall, Rawtenstall.

Romiley.—Extensions to works, Dye-lane, for Messrs. J. Scholfield & Sons.

Rotherham.—The following plans have been passed:—Six houses and house and shop, Tenter-street, for Messrs. Armston & Wortley; alterations, "Green Dragon," Kimberworth, for Mappin's Masborough Old Brewery, Ltd.; five houses and house and shop, Hatherley-road and Selwyn-street, for Mr. J. H. James.

Rugby.—Proposed laundry at workhouse (1,350*l.*); Mr. J. W. Pendred, Clerk, Guardians' Offices, Rugby.

Selby.—Fifteen houses (3,000*l.*); Mr. R. B. McGray, Surveyor, Urban District Council Offices, Selby.

Sheffield. — Enlargements to Morley-street School, Eccleshall (450 extra places); Mr. G. S. Baxter, Secretary, Education Committee, Town Hall, Sheffield.

Spring Vale.—Weaving shed for the Albert Cotton Spinning Company.

Stoke-on-Trent.—Factory, Wolfe-street; Mr. T. Godwin, builder, Victoria-road, Hanley.

Swansea. — Alterations to Oxford-street Market (1,300*l.*); Mr. Glendenning Moxham, architect, of Messrs. Wilson & Moxham, 39, Castle-street, Swansea. Plans have been passed as follows:—Additions, "Grasmere," Eversley-road, for Mr. C. F. Walters; three houses, Spencer-street, and two houses, Sylvia-terrace, for Messrs. Hughes & Morgan; seven houses, Manselton-road, for Mrs. Ann Evans; warehouse, Dunvant-place, for the Crown Composition Company; additions, "Compass Inn," Caebricks, Cwmbwrla, for Messrs. Hancock & Co.

Taunton.—Twelve houses (2,040*l.*); Mr. D. Edwards, Surveyor, Town Hall, Taunton.

Thame.—Parochial hall, Nelson-road (550 places); Mr. James T. Robinson, architect, Thame.

Troon.—Church; Mr. H. E. Clifford, architect, 225, St. Vincent-street, Glasgow.

Watford.—Proposed baths; Mr. D. Waterhouse, Surveyor, Urban District Council Offices, Watford.

Westbourne.—School (2,625*l.*); Messrs. F. Sandell & Sons, builders, Railway-approach, Worthing.

Wolstanton. — Extensions to workhouse (2,675*l.*); Mr. W. Rogers, builder, Tunstall.

Worksop.—Alterations to Wheat-Sheaf Inn for the Worksop and Retford Brewery Company, Ltd.

Wrotham (Kent).—School; Mr. W. Robinson, architect, Caxton Houe, Westminster, S.W.

* See also our list of Competitions, Contracts, etc., on another page.

METROPOLITAN ASYLUMS BOARD.

AT the sitting of the Metropolitan Asylums Board on Saturday the following matters were dealt with:—

Long Reach Hospital.—The Finance Committee reported having received from the Works Committee an estimate of 1,500*l.* of the cost of works in connexion with the adaptation of the shore buildings at Long Reach Hospital for smallpox purposes, and certain fire-resisting works in connexion therewith. It was decided to apply to the Local Government Board for authority to incur the expenditure.

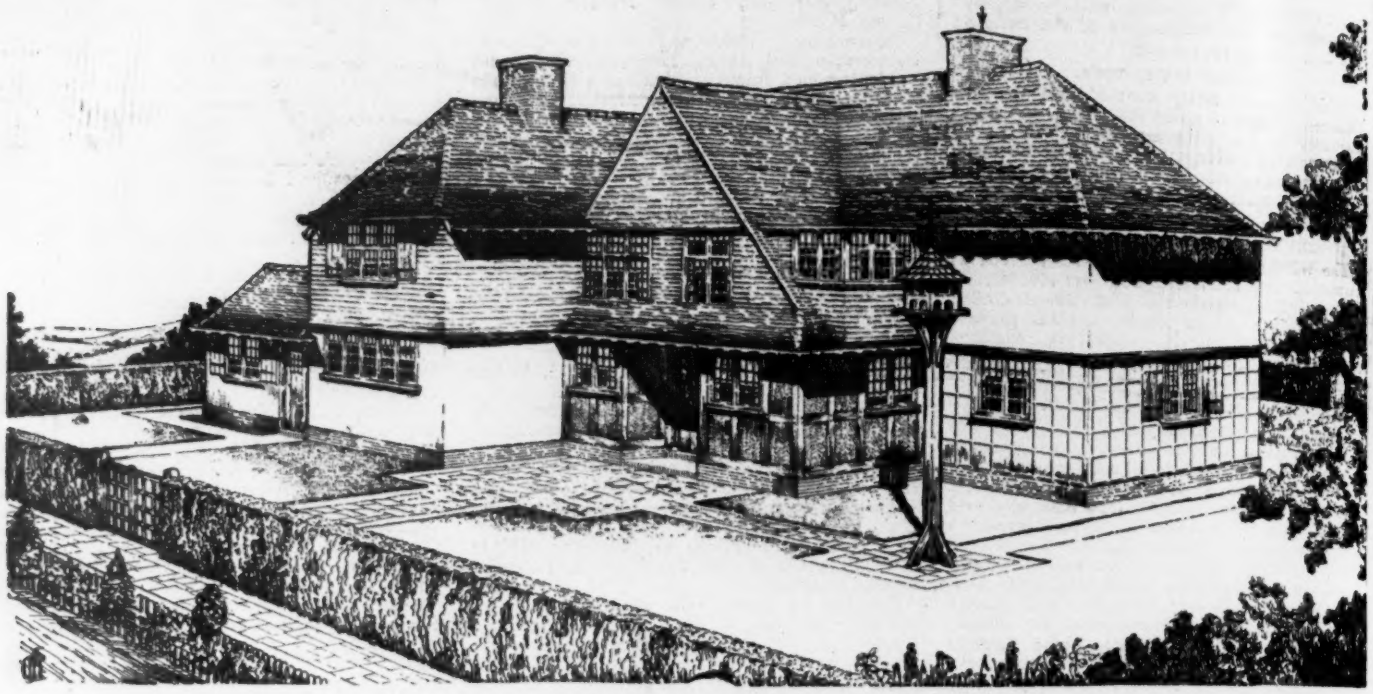
Millfield.—The Works Committee reported having instructed Mr. H. Howard, surveyor, of Littlehampton, to prepare a plan with draft, specification, and estimate of cost for the construction of a substantial concrete sea wall for the protection of the Board's sea front at Rustington.

Works.—Subject to the approval of the Local Government Board the following tenders were accepted:—Messrs. Bristowe & Co., 11, Tothill-street, Westminster, 697*l.* 19s. 2d., for road and paving repairs at North-Western Hospital; Mr. S. Lane, Wimbledon, 219*l.*, surface drainage works at Park Hospital; Messrs. J. Linfield & Sons, Ltd., Littlehampton, 205*l.* 10s., for painting works at Millfield; Messrs. J. M. Jackson & Sons, Ltd., Blackwall, E., 2,400*l.*, for relaying the upper deck of the training-ship *Exmouth* with teak; Mr. L. Kazak, Belvedere, 2,161*l.*, for works at Long Reach Hospital.

FOREIGN AND COLONIAL.

Building Material, Drainage, etc., Works, Roumania.

The British Acting-Consul at Bucharest (Mr. L. Schondorf) reports that a Bill was presented on March 26 to the Legislative Assembly for the raising of a loan of 30,000,000 francs (about 1,200,000*l.*) for the construction of a new municipal palace and the carrying out of drainage, road, and other public works at Bucharest.



"The Ideal House," Olympia.

THE IDEAL HOME EXHIBITION.

NATURALLY the dominating feature of the Ideal Home Exhibition at Olympia is the "Ideal House" placed in the centre. This house, built from the prize design by Mr. Reginald C. Fry, in conjunction with Mr. H. Clarke, jun., is really a remarkable achievement in construction, having been erected by the builders, Messrs. H. & G. Taylor, in exactly ten days. As regards design, the general proportions are pleasant and satisfactory, though here and there a somewhat fussy bit of detail catches the eye. These, however, seemed to enhance its popularity rather than otherwise. Internally, the same criticism applies. While the general arrangement is good, it would be better suited to a house of somewhat larger size, and the cramped effect is accentuated by the amount of detail employed. A house on this scale should be simpler; flat plaster ceilings give more sense of space than the beam ceilings adopted in this case, and in other respects the detail is too ambitious for the scale of the work.

It must be admitted that the rooms would have looked far better if even ordinary care had been exercised in the selection of the furniture, particularly that on the first floor, where the difficulties of height have been ignored, and wardrobes shot in, too high to stand against the wall, dressing-tables blocking out half the light, and bedsteads leaving only just room to squeeze round them. This unsatisfactory impression it gives cannot in fairness be laid at the architect's door, as the rooms are not a bad size, and could in most cases be comfortably arranged.

Leaving this central feature, we notice a little way beyond a massive and dignified block from the hand of Mr. Robert Atkinson which houses the various types of heating apparatus exhibited by Messrs. J. F. Phillips & Son. The warming systems are two in number:—(*a*) The "Economiser" system of central heating by moist warm air, illustrating the method of warming, cleansing, and humidifying the air supplied to a building for combined warming and ventilation; (*b*) the "Aero" system of central heating by hot water, showing the very small pipes required.

Methods of automatic control are also shown:—(*a*) Automatic control of the air admitted to the building by the "Economiser" apparatus; the temperature being controlled by a liquid thermometer placed in a room, opening or closing ventilators, when the temperature reaches predetermined points. (*b*) The temperature of the water in the "Aero" system controlled by a similar thermometer fixed in the same position.

Near this is Messrs. Cornes & Haighton's well-known "Model Cottages" combination. It is fitted between the kitchen and scullery, economising space, coal, and labour. The copper is heated by the kitchen fire, providing a supply of hot water to a porcelain enamel cast-iron bath in the scullery bathroom. The heat from the kitchen fire passes round the radiating front and back of the copper, and the copper is accessible from the scullery. Hot water, which is on the low-pressure system, can be drawn in the scullery for domestic purposes.

Not far away, in the south-west corner, is the exhibit of the Interoven Stove Company, whose neat little range secured the highest award for improvements in house fittings at Gidea Park. This register grate can be converted in a few seconds into a complete cooking range with oven, boiler, and hot plate.

The Coalbrookdale Company and the Eagle Range Company show selected types of their ranges, and Messrs. Bratt, Colbran, & Co. their patent "Heaped" fire, with various designs for interiors and mantels.

Examples of the Falkirk Iron Company's manufactures specially applicable to domestic cooking and heating include the "George" range; Barker's Generator, in two sizes, the patent of A. H. Barker, B.Sc., B.A. (Lond.), an excellent system of heating small houses—one fire will thoroughy heat a villa at absolutely minimum cost; the "Era" anthracite stove in two sizes; the "Pelham" fire grate; and a hot-air, controlled-combustion stove burning either ordinary coal, anthracite, or coke.

"The Ideal House," Olympia.

Mr. Thomas Potterton shows cooking and water-heating apparatus, using gas and coal fuel. An exhibit showing the "Queen" combined kitchener and separate gas-heated hot-water apparatus working, demonstrating the utility of gas in supplying hot water for general uses. The "Queen" kitchener can at once be converted from a coal-burning fire to a gas-heated cooking appliance. A working example of kitchen installation is on view, showing the "Queen" cooking range with hot-water service for domestic supply. The exhibit also includes the "Victor" gas boilers and accessories, together with the "Victor" complete automatic gas-heated hot-water supply apparatus in various forms. Heating installations with radiators for town and country houses, and the new "Seal"ed oven gas-cooker.

Messrs. Strode & Co. exhibit electric and petrol-air safety gas-lighting systems, with lighting plants shown in operation, at their stand and in the special Plant House outside Olympia. Also accessories for domestic engineering, such as hot-water supplies, heating and cooking. A feature of this exhibit is the display of electric and gas lighting fixtures and architectural metalwork.

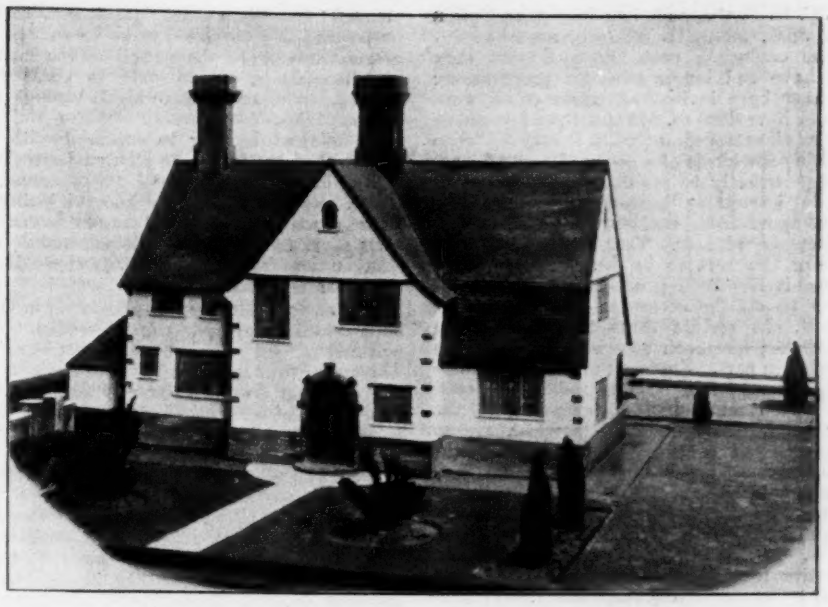
The specimens of Devon fireplaces shown by Messrs. Candy & Co., Ltd., are supplemented by chimneypieces of various woods and some "Coptic Ware." The Devon fires were placed first in official tests carried out at the New Government Offices, jointly by H.M. Office of Works and the Smoke Abatement Society, and were also selected by the public as the best fire for the Ideal House in open competitions held in connexion with previous Ideal Home Exhibitions for five rooms out of seven in 1909, and seven rooms out of nine in 1910.

The Carron Company have various examples of their well-known productions in the Heating and Lighting Section, where, too, Messrs. Messenger & Co., Ltd., show cast-iron boilers for heating dwelling-houses, glasshouses, etc.

Messrs. Ewart & Son's exhibit of gas geysers and automatic hot-water service should also be noticed.

In the Construction and Decoration Section Messrs. Thomas Lawrence & Sons have a stand, designed by Mr. Reginald C. Fry, on which are displayed specimens of their various bricks and tiles. These may also be seen in the house forming the central feature of the exhibition.

Some panelled walls and ceilings shown by the Beaver Company, Ltd., represent this system of decoration. The "Beaver" board is a pure wood fibre product, taking the place of lath, plaster, and wallpaper. In the Construction and Decoration Section will be noticed also the exhibit of the Silicate Paint Company.



Model of Mr. Cherry's "Ideal House."
Made by Mr. John B. Thorp.

Messrs. Sissons Brothers & Co. show rooms, decorated in Hall's distemper, as follows:—

In the dining-room the beams supporting the ceiling are stained dark oak, and the panels between the beams are covered with a stencilled design based on the vine, with a Scottish heraldic shield placed so as to form a diaper over the whole ceiling. The design was first stencilled on a ground of neutral brown of medium depth, in light shades of purple pink for grapes, yellow-green leaves, and bright brown stems; the background was afterwards stencilled in soft greenish-blue, leaving an outline of the original neutral brown running along each side of the design, and close to the beams is a narrow border showing at intervals a chequer of black and brown. Over the mantelpiece, in the centre of the room, is shown "Autumn," a seated figure. Around the frieze pass figures of young women and young men beneath trees laden with fruit, some dancing, others carrying baskets of gifts and fruits to "Autumn." The *motif* in the boudoir has been taken from the peacock. On a wide frieze is a free design of peacocks and blossom, painted after the Japanese manner on a cream-coloured ground. The walls are panelled with wood, stained grey. The panels are heliotrope. The ceiling is geometrically panelled. A simple stencil is on the big circle close to the edge.

The effect aimed at is one of delicacy of colouring, freedom of treatment, and airiness.

Messrs. Arthur Sanderson & Sons show a room decorated in a simple manner, as a background for pictures or rich materials. The samples displayed consist of the choicest silk flocks, chintz patterns, leathers, and imitation silks. All the doors are of Gilmour construction.

Messrs. Thos. Parsons & Sons exhibit includes "Endelline" and "Endelflat" enamels, varnishes, and other materals for use in artistic decoration: their stand has been designed primarily to show off to the best advantage a selection of the new "Trans-ol" friezes. Within the stand is a large apartment in which a complete scheme of decoration—including a "Trans-ol" frieze—is carried out in detail.

These friezes are really transfers executed in oil-colours. They can be applied to any washable surface; and after the paper backing has been moistened and stripped off they have the effect of hand-painted friezes. Architects will, we think, welcome "Trans-ols," as their own designs for ornamentation can be transferred and the whole scheme of decoration thus kept absolutely under their own control.

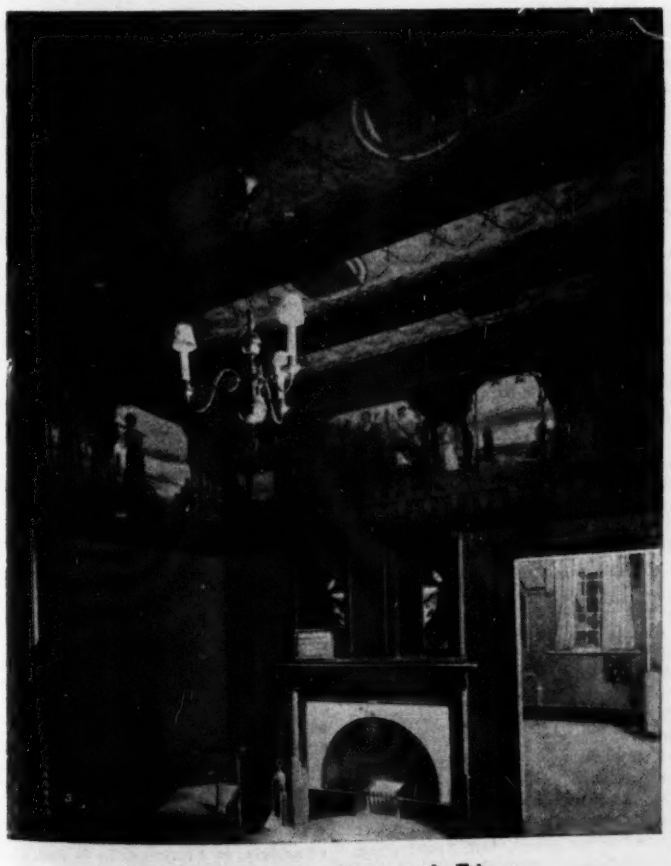
The materials employed in the decoration of the "Ideal House"—"Endelline" enamel, "Opako" lead-free undercoating, varnishes, stains, and colours—were supplied by this firm.

The panelling and parquet flooring shown by Venesta, Ltd., give an indication of the possibilities of this useful material; and next to this, close to the main entrance, are some interesting models of houses to ½-in. scale by the following architects:—Mr. G. J. Hagger, Mr. H. G. Cherry, Mr. De Lacy-Aherne, Mr. A. C. Morris-Edwards, Messrs. R. C. Fry and H. Clarke, jun., Mr. B. Berkeley Wills, Mr. H. W. Pye, Mr. G. E. Clare. The five first named have been executed by Mr. John B. Thorp.

Messrs. D. Anderson & Son, Ltd., with their "Marosa" wall lining, like marble, have an attractive exhibit in the Sanitation and Ventilation Section. Here also are to be seen bath-rooms and fittings from the Farringdon Works (Messrs. Pontifex & Sons); the Lion Range (with improved raising fire and new design of boiler flue), by Messrs. McDowall, Steven, & Co.; porcelain-enamelled baths, etc., by Messrs. O'Brien, Thomas, & Co.; grates, a new slow-consumption range, mantel registers, and cognate fittings by Messrs. Wilmer & Sons.

In the Hygiene and Cleaning Section demonstrations may be seen on the stall of the British Vacuum Cleaner Company, Ltd., who show how efficiently their labour-saving contrivances can be worked.

Not the least interesting section of the exhibition is that devoted to furniture by such well-known craftsmen as Mr. Charles Spooner, Mr. A. Romney Green, Mr. C. F. A. Voysey, Mr. George Walton, Mr. G. Ll. Morris, and others.



Dining-room with Decorated Frieze.

Mr. C. H. B. Quennell, in a brief introduction to this work, makes the following remarks :—

"The craftsmen probably wish that they could have had longer time for preparation; they have been invited to exhibit their work and they have done so. It is not put forward as being at all extraordinary, but it may be taken as voicing the ideals of a group of men who are striving earnestly to maintain craft traditions and do interesting human work. For this reason, apart from æsthetic considerations, it is extremely valuable. That there is any work at all of this sort to be found is wonderful, because it has been produced in direct antagonism to all the economic doctrines of the moment. In certain cases there have been concessions; inasmuch as machinery has been employed in part. Just so much has been done by its aid as would tend to reduce the cost, without too much loss of interest. On the other hand, there are exhibits which are as purely pieces of craft work made by hand on the bench, as those produced by Chippendale and his men, and with the same sort of tools."

A word should be said for the Dutch village annexe which, under the care of the artist, Mr. W. L. Bruckman, is a picturesque and suggestive feature of the exhibition.

THE SCULPTOR'S ASSISTANCE TO ARCHITECTURE.

A MEETING of the Leicester and Leicestershire Society of Architects was held on the 8th ult., in the Room, No. 5, St. Martin's East, Leicester, when Mr. W. Gilbert, of the Bromsgrove Guild, read a paper on "The Sculptor's Assistance to Architecture." In the course of his remarks, which were illustrated by lantern slides, he said :—

"It is not my intention to attempt to express to you more than one thought, or more than one phase of thought, in the development of this vast subject; the argument I shall endeavour to present is that while the architect must be paramount a responsibility as overwhelming in its turn rests with him towards the sculptor. It has been truly said that the country which produced great architects produces great sculptors. History has time and again proved the truth of this assertion. And if our decorative work does not fit our buildings the responsibility rests not with the sculptors, who can only deal with the opportunities given them by the architects, but with the architect who has failed to grasp the immensity of his task, to produce his building in such a manner as to obtain the best from colleagues who are not merely experts in production, but erudite in judgment. I think it is Ruskin who says a great architect must be a great sculptor and a great sculptor a great architect. I do not think this axiom was ever intended to be taken literally, but was intended to convey the absolute necessity for the closest working together of these two in the development of a scheme in minds equally proved in the fine ethics of fitness and taste. I believe that this phrase was intended to convey that there should be the broad basis of learning which would encourage the architect —as at Nancy—to analyse the power of the men at his disposal, seeking those who could most readily enter into the expression of his scheme. Studying the work of Jean Lamour, not only in the screens of Nancy but in the beautiful staircase in the Palace—now the Hôtel de Ville—in the cathedral church, or, again, in the little balconies "ouvrages en araignées," exquisite in beauty of detail and graceful curve, one sees dotted about the town (his own house, Rue de Notre Dame; balconies, Place Royale). I could not help feeling that this triumph of an artist, while obeying the architect in the main lines of the scheme, was yet the result of a man allowed to enter freely into his work with real delight in the expression of the confidence of Emmanuel Heré towards him.

While realising that Heré was the pupil of that great master of elegance, Boffrand, I should be unable to believe that the executed screens could ever be the slavishly copied detail of the architect, even if Lamour did not himself say, "Il faut être de l'art pour comprendre combien il faut de justesse pour profiler et contourner ces pièces"; even if, in addition, the evidence and assertion of Lamour himself or the portrait of the smith—a present from Stanislas—which has come down to us showing the grilles as a background, were wanting as to the part he took in this great scheme. The wisdom of the architect for his own great name was the choice of the artist to assist him, and while Heré planned his Place with great constructive lines—mapping out his scheme to suit to the greatest advantage the powers of the man at his disposal—he sought only to guide with gentlest persuasion his highly-strung and nervous team.

He allowed Lamour to enrich it with the triumphs of the forge; he allowed Barthelemy Guibal and his pupil, Cyffle the Flemand, to charm us with the beauty and originality of their groups of Neptune and Amphitrite paying their court to Stanislas the King; and Joseph Sontgen the Westphalian to adorn with children the Place de la Carrière.

The freedom of his men spontaneously brought happiness and joyousness of expression. This personal accent was obtained not by the delivery of drawings, but by instilling into the men working that peculiar and imperceptible adjustment of their capabilities and knowledge to his guiding hand; and the architect, great in himself, commanded the loyalty of the artists who responded to the architectural conditions awaiting them.

Again, I cannot believe François Gamain, treacherous or weak-minded man as he was, to be merely a transcriber of Gabriel's drawings, and this staircase of the Petit Trianon, most opposite in its characteristic of monotony and formality to the exuberance of Lamour's work, must have been, to a large extent, the work of Gamain's brain though working under the quiet scholarly influence of Gabriel.

He seems to have impressed Louis XVI. to such an extent by his ability as to obtain the friendship that monarch fully bestowed on the smith. A great proof of the smith's competence, for it must be remembered that this friendship was gained at a time when not only Louis XVI., but Marie Antoinette, Mme. de Barry, and, in fact, the members of the whole Court, adopted art as the fashion, and interested themselves in matters of taste; this, too, at the end of a period of 200 years in the cultivation of taste in these same circles. It is hardly likely that such personal friendship would have been bestowed where the man was merely a skilful tool—a mere servant of the architect.

I most emphatically do not wish to be misunderstood. I do not foolishly depreciate the architect's part of the work, for in all periods of large coherent art the influence of the architect has been extraordinarily powerful—I have just shown you it was as great at Versailles as at Nancy. It was as great in the building of the Escorial at Madrid as at Versailles. No one will dispute the importance of the strong personal character of Herrera, but due credit must be given to the Italian Flecha and his Spanish carvers, and Leoni the Milanese, who developed the train of thought originated by this master.

The architect has his province—how great a one it is the sculptor knows. The man who is successful, though, is he who trims his work to the intellect of the men he is working with, seeking their advice and peculiar knowledge, not fettering them by hard and fast suggestions, but sympathetically explaining to them the scheme he desires to work out, the expression he wishes to convey, enthusing them with the same ideas, seeking their knowledge, their experience, their skill in carrying forward the art they, equally with him, love and care for, realising that they, as well as he, did not entirely labour for the love of the wealth it may bring.

I have spoken of the artist at the discrimination of the architect, but am I appealing for too ideal conditions? I think of another instance when in the past assistance was sought of sculptors, and they were not found wanting in their work.

You all know the Landhuis van der Vryen, or, rather, the remnant that exists of that fine building in Bruges by Van der Poele, and you will remember the fireplace in the Council Chamber, before which you will have stood marvelling at its completeness, its richness, and stately beauty. Can anyone fail to appreciate the story it tells of the pomp and magnificence of the rulers of the old Flemish capital when Charles V., the Count of Flanders, was Emperor of half Europe? It expressed pride in ancestry pride in victory, and conquest accomplished. Can anyone look at this and, thinking of the period, doubt its success?

Well, now, this work was the result of competition, but a competition arranged with such scrupulous care and anxiety to get the best work. In these days sculptors were architects and architects were sculptors, but apart from this the competition arranged by the municipality was for the best work, irrespective of price so long as it fulfilled the purpose. We know that some fine competitors, architects and sculptors, entered for this competition. We learn that the successful competitor, Lancelot Blondeel, submitted a large drawing, and that John Roelandts prepared his models; that the decision was arrived at after long deliberation, and that all the competitors received a recompense for their trouble. Now mark the scrupulous anxiety to obtain the best work—the successful competitor is sent to other towns, to study and to consult sculptors and experts in material. The herald Toison d'Or is consulted. You see the very highest authorities are consulted; the Council consider, and I would venture to tell you, rightly consider, that there is absolute necessity if the real thing is wanted that those most competent to deal with the work must handle it. Their work must be right, it is expert knowledge they require, and not merely even skilful workmanship. Toison d'Or is consulted, his fee is paid. Would anyone of these counsellors dream of going to a man of lesser repute, less erudite, with lesser knowledge? No. And why? Because the Council recognise that the resources of a man of lesser knowledge would be unworthy of their town, that a fault in heraldry would expose their fireplace to the unspeakable contempt of those competent to judge. Their work is not intended to please and satisfy the most ignorant, but the most learned who would view it. Then understand the anxiety which equally impelled them to retain the services of the most accomplished sculptors. The sculptor's work had to be also the best and most accomplished which could be given—Guyot de Beaugrant was the selected sculptor; it was not a competition of price. Is it difficult to realise that an error of taste and accomplishment on the one part of the sculptor would have been just as much an offence to their eyes as a slip in the heraldry?

Is it difficult to realise the royal contempt which would have been freely expressed at an error in heraldry or at a badly carved form? There is only one right treatment to be given, and that is in proportion to the knowledge and skill of the sculptor. Treatment is governed by knowledge and not by price, and any other treatment but the most accomplished should be useless to your purpose. If you cannot afford this degree do not parody it in your buildings and accept the similar medicine the chemist is eager to dispose of because it is to his greater profit, or, rather, I should express it, less costly in its drugs to produce. In this manner in the past was good work encouraged. The bad work was burnt or destroyed publicly before the sculptor's doors.

I think it will undoubtedly be said that the expression of a sculptor's highest eloquence is the avowal of his religion, the confession of his faith in all its mysteries. Donatello can be imagined carving the pillars of the market place, but he gave his finest thoughts to the service of the Church. To anyone who saw the collection of beautiful pictures in Bruges some years ago at l'Exposition de la Toison d'Or it surely would come to them as a revelation of the devout piety which inspired those painters in a brilliant era of a great nation. If this be realised fully it will be easy to remember that the sculptor's work—the assistance the sculptor gives to architecture—is in a large measure still in the actual position for which the sculptor designed, namely, in the buildings themselves. Therefore, to see the greater part of their work we must take ourselves to it, and in the same devout spirit which animated these sculptors in the execution of their work seek to learn their thoughts, remembering the times and conditions under which their work was done.

Art seems to me to owe a vast debt to the statemanship of men like Philip Le Bon and Colbert. It may have been the pride, the love of pageantry, or the desire to excel their neighbours which urged the rulers in high places to encourage the artist, but I cannot help thinking that it is rather their statesmanship and far-seeing ideals for the prosperity of their country which persuaded them in their respective periods to such efforts to make the work of their artists known in countries far and wide. Artists are attracted for the sake of the artistic education and opportunity to express their art afforded. This happened at Milan under the Sforza, when the certosa was being built at Nuremberg, in the fine churches at Florence, in Rome, in Madrid, as I have reminded you, at the time of the Escorial,

in Portugal in the Manoelino period, and in France when architecture began to be designed for convenience under François Ier.

They were attracted, as I have said, in Bruges in the XVth century, in that brilliant period of Philip Le Bon, when the art of Bruges shone a brilliant light for a hundred years; and later still nearer to our own time, and being nearer renders it easier to trace and realise; when Colbert the statesman developed the idea favoured by Henry IV. of collecting in the Louvre artists to develop the marvellous gift of assimilating the foreign ideas with which they were brought in contact and recasting them to suit their own individuality and views.

That their art came from Italy is no strange thing when one realises the influence of the Florentine Medici in France, when one realises that Colbert was himself the pupil of Mazarin. But it says much for these men that they saw in the manufacture of beautiful work a method of augmenting the wealth of the country. Philip Le Bon by his gift of artistic work to ambassadors and foreign princes obtained the means by which the artists could continue to seek for their ideals, and Colbert's wise prodigality in this direction created immediately such desire in the minds of foreign courts that we read of the despatch of a host of artists decorating now the palaces of Petersburg and Moscow, now Potsdam and Le Haye; and what these powerful reigning houses did the members of their courts copied, and money still flows into Paris which has never lost the tradition of the æsthetic sense.

I have spoken of the origin of these schools, and I have said that artists are attracted by the education afforded.

Now let us see how the personnel of the schools is maintained. Only recently I was reading a book just published, an analysis of what the writer termed "peculiarities of form and expression which give national character to the old work." It is asserted that the association of artists of different nationalities was an impossibility for sound art. Well, let us see what the schools of past time have to tell us, and let us see what men of undeniable prominence in art by their own example would suggest to us as the correct method of training themselves for their advancement and love of their work in striving after the reputation of their name. We know that at Versailles, under the powerful organisation of Le Brun, there was welded into a school of a most homogeneous character many nationalities. Among the sculptors and carvers and metalworkers alone there are several nationalities. One cannot help remembering Tubi the Italian, with his Chariot of Apollo and his group at the entrance to the courtyard; the Caffieri Brothers and their great folding doors to the great staircase; Verbeckt the Fleming; Pajou and the decoration of the Opera House; Oppendordt; the Flemish Brothers Marsy, the creators of the admirable fountain of Latona; Luc Fairdherbe the Malinois sculptor; Cuccu the Italian, with his stair balusters and door knobs and furniture; Van Opstal and his grotto of Thetis; Van Cleve, and many others, all mingling with the Frenchmen Coustou, Coysevox, Pigalle, and De Lobel the smith, the forger of the balcony on the Cour Royale and the brilliant entrance gates to the palace; and lastly, but not least, the Nancien Adam and Lemoyne.

We know that in Louis XVth periods it was the German Hausman, the Fleming Stabre, and the Swiss Boulle—in fact, almost every nationality—who formed the school, and the pride of royalty in the work of their artists is well illustrated by the King's gift of Caffieri, the Italian's lustre, to Louise Elizabeth of France on her marriage with the Infant Don Philip of Spain.

But while working together these great artist artisans and masterful ones too kept their personality, and it is easy to distinguish the power of Coysevox, the flexibility of Tubi, the gravity of Marginer, the vivacity of Legros, but they combine to make the qualities of this style of which they are such skilful exponents, and the more one looks at their work the more one marvels at the strong personality of Le Brun, who could gather round him so many individualities and yet inspire them to their best.

But, in turn, one realises that this very connexion was a continued incentive to fresh efforts by each other's presence, and that their masters became more ambitious in their activity. And if I wanted further authority and spoke of painters, do not your thoughts fly to Dürer, Velazquez, and innumerable others who felt that their very existence in art depended on their knowledge which was to be sought in lands other than their own and in contact with other individualities?

A school, I feel, works in such harmony that those who acknowledge the direction often excel, not the direction, but the skill of the direction; and in such harmony did these sculptors, Girardon, Adamainé, and Tubi, and the others, work that undoubtedly they often did what Le Brun wanted better than Le Brun could have done it himself; but, on the other hand, there is undoubtedly no design Le Brun did not inspire. And so with the work of Caffieri, Verbeckt, Pajou, Oppenordt, and others. Undoubtedly De Cotte, Gabriel, and Manssart inspired them with the air of grandeur and dignity, that these men gave the touch of life and breathing to the building which M. de Nolhac says contains the condensed genius of a whole race, but which, I would venture to say, contains rather the condensed genius of whole periods of art, and that art the best efforts of the whole of the Western nations.

And as it was at Versailles and in France generally in the XVIIth and XVIIIth centuries so were the sculptors of the Netherland celebrated in the XIIIth, XIVth, and XVth centuries, and both received pupils from other lands, and in return, attracted by the rich rewards offered for the fame of their work, attracted themselves to foreign courts in Spain, Italy, France, Germany, and Sweden.

Finally, may I say a few words as regards a statement which is by no means one free from contempt? One often hears the cry that we are decadent in our art, that reputation is only to be now obtained by copying the old work. We talk about our love for the antique until we are frightened from doing anything fresh. We admire the great masters of the Versailles school, as we should, with reverence and wonder, desiring their work and seeking by every means to obtain it, forgetting that if their work had been treated with indifference that great school could have had no existence. We know, however, that such was not the case, for the work of these men was anxiously waited and credited with due praise, for we have only to obtain the records of the time and we read of the enthusiasm aroused by Coustou and Pigalle—Coustou, who repudiated the abject submission to what were less "idées de la belle antique"; Coustou and Pigalle, whose Venus and Mercury, as Lady Dilke points out, were termed by Mathais Oesterreich (Ersterych): "Les plus belles statues modernes de la collection du roi."

It cannot be said that these men were ignorant of classic art, but they learnt from it and put into it the ideals and life of their time, and so should we, and not be driven to a desire for mere antiquarian accuracy in our rendering of any style, whether Adams, Georgian, Classic, or Gothic. Great and scholarly opportunity provokes great art, and while probably the art of the Greek sculptor will never be equalled, we should be careful not to hastily decry our time. We should examine art and in the aggregate, and doing that I am sure we should find that even in our own miscalled time we are doing something; it is the custom of the day to lament the decadence of the present time and deplore that we have no art of the Greeks or of the Romans, but the word decadence is not to be assumed as the same thing as decay. It is often a misplaced word for evolution or transition between two artistic systems. Carpeaux's work on the Louvre during the Second Empire, Dalou's great group, must be judged by generations to come rather than by ourselves. The work is too close on to our own time.

It may or may not be true that the sculptor's art in the aggregate is decaying. If it be true, then the sculptor must not bear the entire blame, for the sculptor can only work in the opportunity afforded. The sculptor does not determine the style of the period; political and special ideas determine habits, and habits determine style. It may be that the growth of interference of women in the architect's province, which towards the end of the XVIIIth century reached so great a pass, obliterated the architect's desire, and so his keenness for this part of his work.

"A pencil, paper! Quick! I have found a way to build my house!" cried Catherine de Viveonne Marquise de Rambouillet excitedly, as we are told, one evening after she had slept a long solitary in deep meditation. We are told also that her wants being attended to she sketched out a plan; and, lo and behold, so superior was it to all French architectural design of the period that houses were built according to her ideas throughout France! Can you wonder, then, if it be true that architects began to prefer to leave the internal decoration of the house alone, and so cut off at once one of the most important portions in which the sculptor could bring assistance to architecture? It is not given to every woman to have the same strong and perfect taste and perfect understanding of style held by Madame de Pompadour.

Direction is desirable to sculpture, but it must be with knowledge, and that in no slight degree, and the architect must have the courage of conviction even as Gabriel had when he contested Louis XVI. in favour of retaining Boucher's decorations.

We have now to regain, even if we had not to create anew, the cunning which has at various times existed in Great Britain in the skilled workman. There are plenty of resources, and although the task may be difficult, we must not underrate the difficulties when we see the presentation gifts to royalty so atrociously bad in refinement and workmanship. To obtain the standard set by the French Court of the XVIIIth and XVIIth centuries will be hard work; it would be interesting, however, to know whether there was so much wire-pulling then as now, and whether the objects of the local tradesman were satisfied by a commission at the expense of the work. I would rather imagine that the stately beauty of the conception was the first consideration, and that as to whether the local tradesman was benefited in any way by a commission for work which he did not produce was a matter which would have appeared the height of absurdity. To produce a remedy he who would speak the truth must have one foot in the stirrup. If these fungi of commercial traditions are cut away, if once again the artist is considered by the architect not to be the servant humbly carrying out his wishes, but a co-equal, receiving the broad outline and indication of the style desired to be followed in the interior and exterior decoration of his building, I can then imagine that with his restored self-respect that artist will not be found wanting in the wide margin of interpretation such as was allowed to the men in the past whose names have come down to us as the masters of their art. Harden energy into strenuousness and earnestness of labour, and again we shall see men work equal to that of Verbruggens at Antwerp and Brussels. Again great truths silently taught will appear on our buildings.

Again the tomb will not be merely a receptacle to place the dead out of sight. Again the church and the house and the street will contain living thoughts, and artisanship will combine with hope and grow and develop into a living art with that scrupulous perfection of finish which alone can give lasting charm. Again we shall see the veracity of the Greeks, the incomparable grace and delicacy of Hardi and Van Cleve, imperceptibly guided by the hand of the architect, with the personality instilled into them, as I have shown you at Nancy and elsewhere, by that adjustment to their capabilities and knowledge of the guiding hand, arriving at your work with the swift skill and hand of the masters. He is the safest in working who holds firmly to his own sense of what is fitting and lovely in decorative art.

Do not, however, dismiss a thing of its style—there is something beautiful in every style. It is only blindness which prevents its being seen and thought out by iron on iron or iron on stone, the sound of human labour, the smoke of the forge quickening the life pulse of the artist with his art, wife and mistress to him, dreaming of no other pleasure than in the conquest of fine form or the erection of a new and beautiful monument, breaking the marble's stubborn sleep in recovering by strenuous labour and purpose in restless energy and untiring vigilance the splendour of bygone times. And when again, as M. de Perate of the Château de Versailles, says, a Gabriel and a Robert de Cotte arises we shall again have a De Cressert, a Caffieri, and a Gouthière."

SUNDAY-SCHOOLS, NEWPORT.

The Wrenford Memorial Sunday-schools are being erected at a cost of about 3,300*l.* from the designs of Messrs. Habershon, Fawckner, & Co., architects, of Newport and Cardiff. The contractor for the work is Mr. C. H. Reed, of Newport.

LEGAL COLUMN.

Water Supply.

A case, Bristol Guardians *v.* Bristol Waterworks Company, which we noted in the Chancery Division (the *Builder*, November 24, 1911), was carried to the Court of Appeal, where the decision was given on April 1. For some time the Guardians of Bristol had obtained a water supply from the defendant company by measure at the rate of one shilling per 1,000 gallons for use in the workhouses, children's homes, and for offices, Committee-rooms, etc., which latter were situated in St. Peter's Hospital. In 1910, however, they claimed a supply at an annual rate under sect. 68 of the Bristol Waterworks Act, 1862, which is as follows:—"The company shall at the request of the owner or occupier furnish to every occupier of a private dwelling-house or part of a private dwelling-house . . . a sufficient supply of water for the domestic use of every such occupier at annual rents." There are a number of statutes regulating the supply by this company, and, in addition, the sections of the Waterworks Clauses Act, 1847, are also incorporated, except where they are expressly varied by the provisions of the Private Acts. It is curious that legislation relating to water supply is always so complicated that it almost suggests confusion of thought usually associated with stronger elements. In the present case the Court characterised the legislation as almost unintelligible, and the Court of Appeal were divided. The curious result of the legislation may shortly be stated to be that, although under the Waterworks Clauses Act the owner or occupier of any dwelling-house can demand a supply for domestic purposes on certain conditions, the Private Acts only empower the owners or occupiers of private dwelling-houses to demand such a supply, and contain no provision as to the charges to be levied in other cases. The majority of the Court held that these houses were not private dwelling-houses, and that the owners or occupiers could only claim to be supplied by way of bargain. Lord Justice Fletcher Moulton, who dissented, did not hesitate to say that there was an obligation imposed on the company by the Waterworks Clauses Act to supply water to all houses for domestic purposes, and that if the Acts under which the company obtained its powers contained no provision as to the rate to be paid the householder could demand a supply even without payment, but that as here the plaintiffs had offered to pay the full rate chargeable for any dwelling-house they were entitled to judgment.

We cannot part with the case without drawing attention to one point which has a bearing on other Acts of Parliament. Lord Justice Vaughan Williams, in his judgment, is reported as having said:—"Another consideration which weighs with me is this—If the word 'private' is disregarded and treated as of no effect, the owner of every warehouse or factory which requires a small amount of water for sanitary purposes will be bound to pay the water rate calculated on its annual value, in addition to a special charge for any water used for trade purposes. This will throw an enormous burden on the inhabitants of Bristol."

Now, has not this "enormous burden" been laid upon the inhabitants of London by the Metropolitan Water Board Charges Act? In Colley's case (the *Builder*, November 17, 1911) the House of Lords held that in addition to the charge by meter for water supplied to a factory for trade purposes the Water Board could also levy a charge based on the rateable value of the premises in respect of water supplied to the workpeople for domestic purposes, *i.e.*, for lavatories, washing, etc. This decison created no small stir among those carrying on business in London, and has been the cause of agitation; but so far no remedial legislation has been obtained.

The Finance Act: Site Value.

An important decision under the Finance Act has just been delivered in the Scotch Courts. The appellants were trustees under a will of certain property in Glasgow. On the death of the testator a provisional valuation for the purposes of increment value duty was made as minus 545*l.*—that is to say, the total value or gross value was placed at 3,775*l.*, but the assessable site value after the deductions allowed by sect. 25 of the Act (4,320*l.*), left a deficit of 545*l.* The Referee under the Act had accepted the view that this minus quantity represented the original assessable site value under the Act, but all three Judges of the Appellate Court held that in such circumstances the original assessable site value must be held to be nil. They negatived the idea that the Act could be construed mathematically or algebraically, and held that the assessable value must be positive and not negative. The site value represents the owner's interest in the land; that might be nil, but could not be less than nothing. It really seems a self-evident proposition, but we have reason to believe that many valuations have been placed at a minus quantity, and, therefore, publicity should be given to this decision, which is of great importance.

If a minus quantity be accepted and the value of the land improves, or the charges on it are lessened, an attempt would certainly be made on a future "occasion" to claim increment value duty; but from this decision it is clear that until the gross value exceeds the sums to be deducted there is no assessable site value at all under sect. 25, sub-sect. (4).

Trade Union Law.

The Divisional Court has recently, in the case of Thomas *v.* Portsmouth A Branch of the Ship Construction, etc., Association, had to consider the effect of the judgments delivered in the House of Lords in Russell *v.* Amalgamated Society of Carpenters, which we noted the *Builder* April 5 last. In the Portsmouth case the claim was in respect of certain sick benefit which a member of the branch claimed from the union. The union set up the fourth section of the Trade Union Act, 1871, and this raised the question whether or not the society, by its rules, was an illegal society, as it was contended if its objects were not illegal then the protection of the statutes did not apply, and the Courts could entertain the action. This point has been raised in numerous cases noted by us, and notably in the second Osborne case, with which we dealt, the *Builder*, March 24, 1911, and in Gezney *v.* Bristol Trade and Provident Society.

In the present case the Divisional Court held that the rules were much the same as in the case of Russell *v.* Amalgamated Society of Carpenters (the *Builder*, April 5 last), and therefore the society was illegal as being in restraint of trade, and the section applied to take away jurisdiction from the Courts; but the real importance of the decision lies in a point taken before the Court, which was not argued before the County Court Judge. It was said that the recent judgment delivered in Russell's case in the House of Lords laid down the proposition that whether or not the society was an illegal society by being in restraint of trade, yet by reason of sect. 4 of the Trade Union Act, 1871, the Courts were deprived of jurisdiction where "any agreement for the application of the funds of a trade union to provide benefits to members" was being enforced. The Judges of the Divisional Court so read the judgments delivered by two members of the House of Lords.

The judgments in Russell's case have not yet been reported in the "Law Reports," and a full report may throw additional light on the question; but it will be satisfactory if the interpretation placed upon these judgments by the Divisional Court is confirmed.

Readers of our Legal Column must have been struck by the useless litigation that has taken place in determining whether or not the rules of trade unions are illegal as being in restraint of trade, and whether as a consequence members can sue the unions or unions can sue their members in respect of agreements mentioned in sect. 4 of the Trade Union Act, 1871. The matters detailed in sect. 4 relate to the internal arrangements of unions and their members, and although in certain cases, of which Osborne's case was a typical example, members may incur hardship at the hands of their unions without a chance of redress in the Courts, yet it must be remembered that under the Trade Disputes Act the public have been deprived of their legal remedy against the unions where unions or their members commit torts or do certain acts in contemplation or furtherance of trade disputes, and if men join the unions they must take the rough with the smooth; in other words, if they, as members of unions, occupy a privileged position outside the law as regards the general public, they cannot complain if they cannot have access to the Courts when disputes come between the unions and themselves.

The Trade Union Acts of 1871-1876 are in general terms, and we have always failed to see how the distinction was drawn in the Courts between those which have rules in restraint of trade and those whose rules do not infringe that principle.

LAW REPORTS.

Sydenham Dust Problem.

THE problem as to whether a local authority is compelled to collect house refuse from front or back door, according to the preference of the householder, was discussed further at Greenwich Police-court on Wednesday, when the Lewisham Borough Council were defendants on an adjourned summons.

The complainant was Mrs. Julia A. Lee, of No. 1, Collingtree-road, Sydenham, who alleged that the Council had failed to collect her house refuse after receiving forty-eight hours' notice on two occasions in March.

It was agreed that for six years the Council had made the collection from the back door, but that the dustmen had commenced to come to the front on the plea that the road leading to the backs of the houses was in a dangerous state.

Mr. Frank Patteson, solicitor, who is the owner of the house, conducted the case for his tenant, and said he had caused the back way to be repaired, although he was not liable so to do.

Since the first hearing of the case the magistrate (Mr. Hutton) had paid a visit to the premises. Mr. Ponter, for the Council, had agreed to collect from the back during the adjournment without prejudice.

Mr. Ponter now stated that further repairs had been carried out, and the Council were willing, so long as the road was kept in that state, to collect from the back.

Mr. Hutton: I should like to tell you what is in my mind. So long as the road is in the state in which it was when I saw it I think the dust is placed in an accessible position. I should be very glad to know you had come to an amicable understanding. Will you be content to have the case adjourned *sine die*, or will Mr. Patteson withdraw?

Mr. Patteson replied that he would consent if the Council paid costs.

Mr. Hutton pointed out that there would not be such costs as would have been incurred if another solicitor had been instructed.

Mr. Ponter offered, on behalf of the Council, to contribute 2*l.* 2*s.* towards the costs, but Mr. Patteson declined to accept this, and the case was fought out.

William Gawthorne, one of the Council's dustmen, gave evidence that the old system of collecting at the back was awkward, and when they went to some of the houses they had a very long way to go.

Mr. Hutton intimated that he could not allow any references to houses other than the one mentioned in the summons.

The Borough Surveyor (Mr. Ernest Van Putten) said the alteration in collection was made under his orders, as he considered the road slippery and dangerous.

Mr. Hutton said he thought the tenant might meet the Council by permitting the front door to be used in bad weather, but that on the dates in question there could have been collection at the back. He would fine the Council 2*s.* 6*d.* and 3*l.* 3*s.* costs on the first summons.

The second was withdrawn.

LONDON COUNCILS.

Battersea.—Various works are to be carried out to the roadway of Clapham Common-road at an estimated cost of 4,170*l.*, which include the provision of a drain, 12 in. by 8 in., kerbing set on concrete both sides of the road, and the making-up of the carriageway with tarred slag macadam. The woodpaved carriageway of Church-road is to be repaired at an estimated cost of 630*l.* Repairs are also to be carried out to four other roads in the Borough at an estimated cost of 267*l.*

Bushey.—Plans and estimates submitted by the Surveyor have been approved for making up Windmill-street, Nightingale-road, and part of Grange-road, and application is to be made to the Local Government Board for sanction to a loan of 2,400*l.* to meet expenses.

Camberwell.—A plan lodged by Messrs. F. Ward & Sons has been approved for the erection of a building between Nos. 31-3 Stafford-street.

Croydon (Rural).—Wood-paving is to be carried out in High-street, Collier's Wood, and in part of London-road, Mitcham, at an estimated cost of 4,443*l.*, subject to a contribution of two-thirds the amount from the County Council.

Deptford.—A portion of Mantle-road is to be paved with redressed granite setts at an estimated cost of 179*l.*, as is also a portion of Grove-street, at an estimated cost of 1,692*l.* Six other streets are to be paved with asphalt at an estimated cost of 2,354*l.* Various repair works are to be carried out in thirty roads in the Borough at an estimated cost of 5,080*l.*

East Ham.—Plans have been passed—for Mr. G. A. Smith for additions to "Denmark Arms" public-house, High-street North, also for Mr. A. Dixon for extensions to Messrs. Whitbread's Bottling Stores, Romford-road, Manor Park.

Hackney.—The sewer in a part of Cassland-road is to be reconstructed with 12-in. and 9-in. glazed stoneware pipes, and a manhole and flushing shaft provided, at an estimated total cost of 120*l.* Electricity mains are to be extended at an estimated cost of 117*l.* The following plans have been passed:—Mr. D. S. Barclay, sixteen houses, Ashstead-road, Spring Hill; Mr. P. G. Ashton, addition to warehouse at the London Indiarubber Works, Chapman-road, Hackney Wick.

Hammersmith.—Tenders are to be invited for renovating the stonework of the Passmore Edwards Library; also for carrying out wood-paving works in Latimer-road. The tender of the Improved Wood Pavement Company, Ltd., at 4,652*l.*, has been accepted for carrying out wood-paving works in Hammersmith-road. A plan has been passed for Mr. J. W. Hawkins for the re-erection of premises at 102, King-street.

Hendon.—Application is to be made to the Local Government Board for sanction to borrow 3,799*l.* for making-up and paving, with artificial stone, Green-lane. The paving work is to be deferred pending further building developments. The Surveyor has been directed to obtain estimates for the erection of a convenience in Cricklewood-lane at an estimated cost of 100*l.* Estimates by the Surveyor have been approved for making-up the footpath between Sunningfields-road and Sunny-gardens at 147*l.*, and widening works in Lawrence-street, Mill Hill, at 864*l.* Fresh tenders are to be obtained for the erection of artisans' dwellings at Child's Hill. Sanction has been received from the Local Government Board and tenders are to be invited for street improvement works at the junction of Green-lane and Brent-street, at a cost of 242*l.*, and sewerage works in Green-lane, at a cost of 703*l.* The following plans have been passed:—Messrs. Hamilton's, eight houses, Vivian-avenue and Audley-road; Messrs. Parker & Unwin, group of ten flats, Addison-way, also a house at Meadway; Mr. T. Higginbotham, six houses, Babbington-road; Mr. Henry Eldon, twelve houses, Babbington-road. The following have been lodged:—Messrs. Hamilton's, six houses, Audley-road and Vivian-avenue; Messrs Harvey & Potter, dairy premises, etc., Finchley-road; Mr. F. W. Bristowe, six houses, The Drive, Golder's Green; Mr. S. Johnson, three houses, Blind-lane; Mr. E. Streather, laundry, Albert-road, Hendon.

Kensington.—The Borough Engineer has been instructed to prepare plans and estimates for making-up Kingsbridge-road as a new street. Permission has been granted to Mr. C. W. Stephens, on behalf of Harrod's Stores, Ltd., to construct a subway under Brompton-road. An estimate amounting to 1,493*l.*, the cost of making-up the extension of Highlever-road as a new street, has been approved.

Lewisham.—So soon as 75 per cent. of the estimated cost of the work has been received, tenders are to be invited for paving and forming the third part of Manor-lane. The tender of Messrs. J. Mowlem & Co., Ltd., has been accepted for kerbing, channelling, and making-up the roadways of Sangley-road-passage at 112*l.*, Phœbeth-street at 385*l.*, and Francemary-street at 645*l.* The tender of Messrs. Gibson & Co. has also been accepted for paving with artificial stone the footways of the above-named roads at 3s. 7½d. per yard super. The following plans have been passed:—Mr. L. S. Rogers, four houses, Woolstone-road; Messrs. J. W. Heath & Son, six houses, Arthurdon-street; Mr. J. Hughes, fourteen houses, Brownhill and Stainton roads.

Wandsworth.—A portion of the foothpath on the eastern side of Endlesham-road, Balham, is to be repaved with artificial stone at an estimated cost of 70*l.*; as is also a portion of the footpath on the northern side of Longley-road, together with the retopping of the tar-paved portion, at an estimated cost of 227*l.* The tender of Messrs. Dowsett & Jenkins, at 739*l.*, has been accepted in lieu of that of Messrs. W. Johnson & Co., Ltd., at 696*l.*, for the erection of a convenience in High-street, Putney. The Borough Engineer has been instructed to report as to the question of wood-paving Long-road, Clapham Common. Tenders are to be invited for paving part of Cowick-road, Tooting, as a new street; also for repairs to part of Crowborough-road, Streatham. The tender of Messrs. J. Mowlem & Co., Ltd., has been accepted at 567*l.* for flagging a portion of the footway in part of Upper Richmond-road, Putney, with Aberdeen adamant. The following plans have been passed:—Messrs. W. Johnson & Co., Ltd., alterations and additions to County of London Electric Supply Company's sub-station, Tooting Bec-gardens, Streatham; Messrs. Killby & Gayford, Ltd., school, corner of Atkins-road and Cavendish-road, South Clapham; Messrs. H. F. Buchan & Co., fourteen houses, Park-hill, Abbeville-road, and Briarwood-road, South Clapham; British Land Company, Ltd., three houses and shops, Mitcham-road, Tooting; Messrs. Charnock & Co., Ltd., warehouse, Point Pleasant, Southfields; Mr. J. Parsons, factory at works of Voelker Lighting Corporation Ltd., 57, Garratt-lane, Fairfield; Mr. J. J. Taylor, four shops, Balham High-road; Mr. R. Marrable, cinematograph theatre, Streatham High-road.

Watford.—At the last meeting of the Urban District Council a resolution was carried to the effect that slipper-baths should be provided.

West Ham.—The footway paving in a portion of North Woolwich-road is to be relaid and made good at an estimated cost of 325*l.* Dartmouth-road is to be paved as a new street. The following plans have been passed:—Mr. F. J. Coxhead, rebuilding offices at Messrs. Burt, Boulton, & Haywood's premises, Prince Regent's Wharf, Silvertown; Mr. C. Watkins, alterations and additions to West Ham Hospital, Bryant-street, Stratford; Messrs. J. Corbett & Co., three houses, Hamfrith-road, Stratford; Messrs. Brunner, Mond, & Co., soda factory at their premises at Silvertown. Plans have been lodged by Mr. A. Foster for the erection of cinematograph halls in Plaistow-road and the Broadway, Plaistow.

Westminster.—Repairs are to be carried out to the wood-paving in a portion of the Strand at an approximate cost of 340*l.* Repairs are also to be carried out to the macadam roadways of Vincent-square and Berwick-street at an approximate cost of 205*l.* Tenders are to be invited for repaving the carriageway of Cliveden-place with wood, at an estimated cost of 1,100*l.*

Wood Green.—Plans and estimates, submitted by the Surveyor, have been approved for making-up a portion of Alexandra Park-road as a new street. The cost is put at 1,401*l.*

Woolwich.—The footway on the west side of Eglinton-road is to be relaid at an estimated cost of 90*l.* Tenders are to be invited for the construction of an underground convenience in Beresford-square at an estimated cost of 600*l.* Plans have been passed for Mr. A. E. Habershon, 30, Green's-end, Woolwich, for the erection of a warehouse at the rear of Nos. 47 and 49, New-road.

OBITUARY.

Mr. E. Hoole.

The late Mr. Elijah Hoole, of "Lastingham," Hornsey-lane, N., was elected in 1869 an Associate, and in 1874 a Fellow, of the Royal Institute of British Architects; last year he was placed upon the retired list of Fellows. Of his architectural works, the following have been illustrated in the *Builder*:—Industrial dwellings in Wentworth-street, Whitechapel, as part of the late Metropolitan Board of Works' scheme for the Goulston and Flower and Dean streets area (November 13, 1886); Red Cross Hall and the cottages, in Little Suffolk-street, Southwark (November 9, 1889); Wesleyan Chapel and Schools, Kitto-road, Peckham (June 8, 1889); and the parochial buildings, with parish hall, gymnasium, and school of cookery, in Sewardstone-street, Victoria Park, for the vicar and wardens of St. James the Less, Bethnal Green (October 19, 1901). He was the architect for Toynbee Hall and Lambeth dwellings; Ridley House, with young men's club, residential quarters, etc., for the parish of St. James the Less, Bethnal Green (1904); houses in Glenforth-street and Lower Woolwich-road, Greenwich; the South African War memorial in St. Saviour's Cathedral, Southwark; the restoration in 1891-2 of Wesley's Chapel and House, in City-road, at a cost of nearly 13,000*l.*; the Bermondsey Wesleyan Settlement, Farncombe-street; and the Mission Hall for St. Martin's Church, Gospel Oak (1907).

Mr. C. B. Fox, M.Inst.C.E.

The death, on April 16, in Toronto, is announced of Mr. Charles Beresford Fox, M.A., aged thirty-seven years. Mr. Fox, a member of the firm of Messrs. Wragge & Fox, and elder son of Mr. Francis Fox, C.E., was a grandson of Sir Charles Fox, C.E., and, until lately, a partner of Sir Douglas Fox & Partners. He was educated at Harrow and Trinity College, Cambridge. He was for a while assistant engineer for the extension of the Great Central line from Quainton-road into London, and was then entrusted with the building of the bridge across the Zambesi, at Victoria Falls, for the Cape to Cairo railway. He was subsequently employed upon the Simplon Tunnel, the Nile irrigation works for the Egyptian Government, and many other large undertakings. Last year he married a daughter of Mr. James A. Wheeler, of Merrynook, New Brunswick, New York.

Mr. J. Hogan, M.Inst.C.E.

The death is also announced of Mr. John Poidevin Lemon Hogan, aged fifty-nine years. Mr. Hogan was a pupil in the Thomason Engineering College, Rorkee, and in 1873 entered the Public Works Department of India. Seven years afterwards he was transferred to the railway branch; in 1899 he was appointed a superintending engineer, and in 1901 was made Junior Consulting Engineer for Railways to the Indian Government. Mr. Hogan retired from the service five years ago.

PATENTS.

APPLICATIONS PUBLISHED.*

7,252 of 1911.—James Lees: Manhole and lamphole covers for roads.

7,628 of 1911.—Benjamin Corrick: Road material or road treating material.

8,106 of 1911.—John Murray Leighton: Construction of concrete piles.

8,802 of 1911.—George Bainbridge: Fastening device for use with doors, windows, and the like.

8,925 of 1911.—The Coalbrookdale Company, Ltd., and William Stewart Malcolm: Kitchen-ranges, cooking-ranges, and the like.

9,768 of 1911.—William Henman and William Beasley Heap: Hearths of fireplaces.

10,967 of 1911.—John Robinson Tate and Frank Tate: Apparatus for detecting leakage in pipe lines and the like.

10,978 of 1911.—Arthur Illidge: Sash-fasteners.

12,611 of 1911.—John Leitch: Draw-off tap.

14,795 of 1911.—Carron Company, Thomas Bamforth, and George Pate: Interior or register grates or stoves with movable canopies.

16,032 of 1911.—William Thomas Carling: Boilers and flues for open fire-grates or fire-places.

22,818 of 1911.—Alfred Lill: Door-closing apparatus.

24,125 of 1911.—Clara Nichols: Water-heating fittings for gas and like stoves.

26,628 of 1911.—Wilhelm Siller: Radiators for heating buildings and the like.

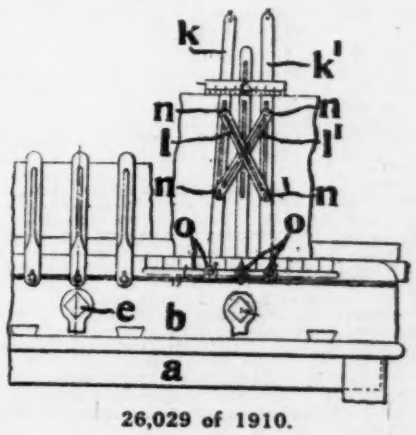
27,636 of 1911.—Frederick William Garner: Joints and couplings for pipes and tubes.

29,121 of 1911.—George Baiulescŭ: Valve for mixing hot and cold water or the like.

SELECTED PATENTS.

26,029 of 1910.—William Hulbert and Charles Henry Hulbert: Cutting shaped bricks.

This relates to a machine for cutting a bar of clay expressed from a pug-mill into arch, camber, and other shaped bricks, and comprises a frame *a* carrying clamping-rails *b* with pivoted arms *k*, *k*¹, adjustable by slotted links *l*, *l*¹, and clamping screws *n*, *o*. A bar of clay on a pallet is placed on the frame *a*, clamped between the rails *b*, and a brick is cut off by means of a bow cutter passed externally down the arms *k*, *k*¹. Templets are attached to the arms *k*, *k*¹ for cutting special shapes. The rails *b* are moved towards and away from each other by screwed shafts, and the pallet is moved forward by rack gearing operated by a shaft *e*.



26,029 of 1910.

26,471 of 1910.—Coates Downing and Allan Pye: Chimney-tops.

This relates to a chimney or ventilating shaft, which is divided into two or more curved branches, which meet in an open-ended vertical tube above. The branches may be of D or oval section, and the tube may be bell-mouthed, or have two or more funnel mouths or louvers.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. **Those with an asterisk (*) are advertised in this number:** Competitions, iv. Contracts, iv. vi. viii. x.; Public Appointments, xix.; Auction Sales, xxiv.

Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.

Competitions.

MAY 1.—**Rhos Ruabon.**—PAIR OF WORKMEN'S COTTAGES.—Premiums of 10*l.* and 5*l.* Assessor, Mr. Raymond Unwin, F.R.I.B.A. Particulars from Mr. G. Meirion Griffiths, Rhos Ruabon.

MAY 1. — **Wombwell.**—SWIMMING BATHS.—The Wombwell U.D.C. invite designs in competition for public swimming baths, to be erected in Hough-lane, Wombwell, Yorkshire. Three prizes of the value of 40*l.*, 30*l.*, and 20*l.* respectively are offered for the designs placed first, second and third respectively by the assessor. See advertisement in issue of February 16 for further particulars.

MAY 15.—**Portland.**—COUNCIL OFFICES.—The Portland U.D.C invite competitive designs and plans for Council Offices. See advertisement in issue of March 8 for further particulars.

MAY 18.—**Hastings.**—SUNK ARENA AND BAND-STAND.—Cost not to exceed 4,500*l.* Premiums, 15 and 10 guineas. Particulars from the Town Clerk, Hastings. See "Competition News," p. 483.

MAY 21.—**Middlesex Hospital.**—DECORATION OF VESTIBULE.—See "Competition News," p. 483.

MAY 22.—**Southend-on-Sea.**—HAMSTEL COUNCIL SCHOOL.—Architects practising in the borough only. Premiums, 25*l.*, 15*l.*, and 10*l.* Particulars from the Education Office, Municipal Buildings, Southend-on-Sea.

MAY 25. — **Lymington.** — PUBLIC OFFICES.—Thirty and fifteen guineas for second and third designs. Assessor, Mr. R. F. Gutteridge, F.R.I.B.A. Particulars from the Town Clerk, Lymington.

JUNE 1.—**Dunfermline.**—INSTITUTE AT NETHERTOWN.—Cost not to exceed 7,000*l.* Premiums of 20*l.*, 15*l.*, and 10*l.* Assessor, Mr. E. A. Jamieson. Particulars from the Secretary, Carnegie Trust, Abbot-street, Dunfermline.

JUNE 3.—**Sheffield.**—CRIPPLES' HOME.—Limited to local architects. Mr. E. M. Gibbs, F.R.I.B.A., and Mr. F. E. P. Edwards, F.R.I.B.A., assessors.

JUNE 14.—**Regent's Quadrant.**—DESIGN FOR TREATMENT.—Premiums, 25 guineas and 25 guineas divided. Adjudicators, Mr. E. A. Rickards and Mr. Alan E. Munby. See "Competition News" issue of April 19 (page 453).

JUNE 28.—**Hale, Cheshire.**—TOWN PLANNING SCHEME.—Premiums 50*l.* and 25*l.* Particulars from the Council Offices, Hale.

JUNE 30.—**Padiham.**—TOWN HALL, BATHS, ETC.—Premiums 40*l.* and 20*l.* Particulars from Mr. J. Gregson, A.M.Inst.C.E., Surveyor's Office, Padiham.

JULY 1.—**Dusseldorf.**—A plan for the extension of the City of Dusseldorf. Premiums of 1,000*l.* to 375*l.* Conditions on application to the Chief Burgomaster, Dusseldorf. A translation appeared on page 365, September 29.

JULY 1.—**Port of London.**—NEW OFFICES.—Limited to those mentioned in "Competition News," issue of April 12 (page 424).

AUGUST 30. — SAXON SNELL PRIZE. — Fifty guineas; with medal, is offered for essay on a hospital subject. Particulars from the Sanitary Institute, 90, Buckingham Palace-road, S.W.

OCTOBER 1. — **Ottawa.** — MONUMENT TO KING EDWARD VII.—Sketch models in plaster to be sent to the Director of National Art Gallery, Ottawa.

NO DATE.—**Birmingham.**—BATHS.—Twenty and 10 guineas for second and third designs. Applications for conditions to be sent to the Superintendent Engineer, Kent-street, Birmingham.

* NO DATE.—**Cardiff.**—MODEL COLLIERY TOWN.—A South Wales colliery company offers a prize of 20*l.* for the best scheme for a model colliery town. See advertisement in this issue for further particulars.

NO DATE.—**Jordanhill, Glasgow.**—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in Competition News, December 1, page 635.

NO DATE. — **Warrington.** — SCHOOL. — The Warrington Education Committee invite competitive plans for the erection of a public elementary school. See advertisement in issue of February 16 for further particulars.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in

APRIL 27.—**Blackhill.**—HOSPITAL.—For erection of the Richard Murray Hospital. Mr. J. Eltringham, architect and surveyor, Blackhill.

APRIL 27. — **Crediton.** — LAVATORY, ETC.—Erection of a dressing-room, lavatory, and covered playground at the school. Plans and specification with Mr. S. Dobell, architect, of Exeter.

APRIL 29. — **Bradford.** — SCHOOL.—Erection of new school for deaf and physically defective children, Lister-lane. Drawings and general conditions of contract seen, and quantities and form of tender from the City Architect, Town Hall, Bradford.

APRIL 29. — **Carluke.** — BUILDINGS.—The Caledonian Railway Company invite tenders for the construction of new station buildings at Carluke. Drawings at the offices of the Company's Engineer, Buchanan-street Station, Glasgow. Specification and schedule on deposit of 2*l.* 2s.

APRIL 29. — **Worcester.** — ALTERATIONS.—For alteration to the disintegrating tanks and other works at the Sewage Disposal Works, Bromwich, Worcester. Drawings with Mr. Thomas Caink, A.M.Inst.C.E., City Engineer, Guildhall, Worcester.

APRIL 30. — **North Ormesby.**—CHURCH, ETC.—Erection of New Primitive Methodist church and schools at North Ormesby. Plans, specification, and conditions of contract seen, and quantities from Mr. T. W. T. Richardson, M.S.A., architect and surveyor, 57, High-street, Stockton-on-Tees.

MAY 1. — **Bristol.** — HALL.—Erection of the Hannah More Memorial Hall, Fishponds. Plans and specifications seen, and quantities, on deposit of 5*l.* 5s., from Mr. Maynard Froud, architect and surveyor, 1, St. Stephen's-chambers, Baldwin-street, Bristol.

MAY 1.—**Kilrea.**—IMPROVEMENTS.—For extensive alterations and improvements to the Catholic Church, Drumagarner, Kilrea, Co. Derry. Drawings and specification with Mr. J. V. Brennan, C.E., architect, Belfast Bank-chambers, Belfast.

MAY 1.—**Outlane.**—CHURCH, ETC.—For erection of Wesleyan church and school, Mount, Outlane. Plans seen, and quantities from Messrs. J. Berry & Sons, architects and surveyors, 3, Market-place, Huddersfield.

MAY 1. — **Portsmouth.**—ADDITIONS, ETC.—For additions and alterations at the infectious diseases hospital; rebuilding conservatory at the infectious diseases hospital. Specifications and plans seen, and forms of tender at the Borough Engineer's Office, Town Hall.

MAY 1.—**Salford.**—ADDITIONS, ETC.—For alterations and additions to the Union Offices, Board-room, etc., Eccles New-road, Salford. Plans and specifications seen, and forms of tender from Messrs. Topham & Adshead, architects, 4, St. Ann's-square, Manchester. Quantities on deposit of 2*l.* 2s.

MAY 2.—**Aspatria.**—HOUSE, ETC.—For erection of dwelling-house, shop, and motor garage in King-street. Plans and specifications with Mr. J. Henney, architect and surveyor, Maryport and Aspatria.

MAY 2.—**Ossett.**—HOUSE, ETC.—Erection of a motor-house, house, and store, at the Corporation Yard, Illingworth-street, Ossett. Plans and specifications seen, and quantities and form of tender from Mr. H. Holmes, M.Inst.C.E.1., Borough Engineer, Town Hall, Ossett.

MAY 4.—**Llanhilleth.**—DRILL HALL.—For erection of a drill hall at Llanhilleth for the 2nd Battalion Mon. Regiment Plans and specifications seen, and quantities from the architects, Messrs. Jenkins, James, & Co., 28, High-street, Newbridge, Mon. Deposit of 1*l.* 1s.

MAY 4. — **Rhosfach.** — HOUSE.—Erection of a new house at Rhosfach, Rhosygadair Fawr. Plans, specifications, and particulars from Mr. J. Teifion J. Williams, architect, Napier-street, Cardigan.

MAY 6.—**Gateshead.**—BUILDINGS.—Erection of buildings on the Whinney House Estate, Shotley Bridge, consisting of boiler-house and subsidiary buildings. Quantities from, and plans, form of contract, etc., with, the architect, Mr. Wm. Lister Newcombe, 89, Pilgrim-street, Newcastle-upon-Tyne.

MAY 6.—**Halifax.**—VERANDAH.—Erection of a verandah in Union-street, Halifax. Plans and specifications seen, and forms of tender from Mr. James Lord, M.Inst.C.E., Borough Engineer, Town Hall, Halifax, on deposit of 1*l.*

MAY 6. — **Lisburn.**—TANK-HOUSE.—Erection of a tank-house at Lisburn Station. Drawing and specification at the Engineer's Offices at Dublin and Belfast, and quantities and forms of tender from Mr. T. Morrison, Secretary, Secretary's Office, Amiens-street Terminus, Dublin. Deposit of 2*l.* 2s.

MAY 6. — **Llanelly.** — HOUSES. — Erection of twenty-four houses on the Old Coke Works site, Ropewalk-road. Plans and specifications at the Surveyor's Office, Town Hall.

MAY 6. — **Manchester.** — SUBWAY, ETC.—Construction of a subway, etc., in Chorlton-street, City. Plans seen, and specification, quantities, and form of tender at the City Surveyor's Office, Town Hall, Manchester. Deposit of 2*l.* 2s.

MAY 7.—**Bristol.**—PAVILION, ETC.—Erection of a new pavilion and other buildings at the Bristol General Hospital. Drawings and specifications seen, and quantities from Messrs. Oatley & Lawrence, architects, 25, Orchard-street, Bristol. Deposit of 10*l.*

MAY 7.—**Heptonstall.**—ADDITIONS, ETC.—For erection of additions and alterations to Jack Bridge Mill, Heptonstall. Plans and specifications seen, and quantities from Messrs. Sutcliffe & Sutcliffe, F.S.I., architects, New-road, Hebden Bridge.

MAY 7. — **London.** — TRAMWAYS.—The London C.C. invite tenders for the roadwork and plate-laying for reconstruction on the conduit system of its existing horse tramways in Dalston-lane and Graham-road; also for the paving works of the street widenings, etc., on the above route, and for the partial reconstruction of the bridges carrying Dalston-lane over the North London Railway. Specifications, quantities, forms of tender, drawings, etc., with the Chief Engineer of the Council, Sir Maurice Fitzmaurice, C.M.G., County Hall, Spring-gardens, S.W. Deposit of 5*l.*

MAY 7.—**Londonderry.**—HALL.—For erection of a lecture hall. Plans and specifications with Messrs. Robinson & Davidson, C.E., A.R.I.B.A., Richmond-street, Londonderry.

MAY 7. — **Mobberley.** — WALL.—Erection of a retaining wall at Mobberley. Drawings, quantities, and specification with Mr. Joseph Swarbrick, M.Inst.C.E. (Messrs. J Swarbrick & Son), 30, St. Ann-street, Manchester. Deposit of 1*l.* 1s.

MAY 7. — **Nuneaton.** — ADDITIONS.—For additions to engine-house, etc., at the Electricity Works. Plans seen, quantities and form of tender, on deposit of 1*l.* 1s., from Mr. F. C. Cook, A.M.Inst.C.E., Borough Surveyor, Council Offices, Nuneaton.

* MAY 9.—**East Ham.**—OUT-RELIEF STATION.—The West Ham Guardians invite tenders for an Out-Relief Station at 95, Arragon-road. See advertisement in this issue for further particulars.

MAY 9.—**Southend.**—CHIMNEY.—Erection of a furnace chimney at the Sewage Disposal Works. Plans, sections, and details seen, and specification, quantities, and form of tender obtained, on deposit of 1*l.* 1s., from Mr. Ernest J. Elford, M.Inst.M.E., Borough Engineer and Surveyor.

* MAY 10.—**Accrington.**—TELEPHONE EXCHANGE.—The Commissioners of H.M. Works and Public Buildings invite tenders for new Telephone Exchange. See advertisement in this issue for further particulars.

MAY 10.—**Aldershot.**—PUBLIC-HOUSE.—For the re-erection of the "Duke of York" public-house, Farnham-road, Aldershot. Plans and specifications seen, and information from Messrs. Friend & Lloyd, architects, Aldershot.

MAY 10. — **Stanley.** — SCHOOL.—Erection of a new school. Plans seen, and specifications with quantities from the Education Architect, County Hall, Wakefield. Deposit of 1*l.*

MAY 13. — **Bedwas.**—PREMISES, ETC.—Erection of bank premises, shops, and billiard-hall for the Bedwas-square Building Company. Plans and specifications seen, and quantities on deposit of 2*l.* 2s. Mr. A. F. Webb, M.S.A., architect and surveyor, Blackwood.

MAY 13. — **Chester.** — CENTRE.—Erection of a laundrywork instruction centre in the playground of the Love-street Council School. Plans and specifications with Messrs. Douglass, Minshull, & Muspratt, 6, Abbey-square, Chester. Quantities on deposit of 1*l.*

* MAY 13. — **Newmarket.** — HALL.—The Committee of the King Edward VII. Memorial Hall, Newmarket, invite tenders for a proposed hall. See advertisement in this issue for further particulars.

* MAY 13.—**Rickmansworth.**—NEW BRIDGE.—The Herts C.C. (Highways Committee) invite tenders for taking down and rebuilding bridge on main road between Rickmansworth and Uxbridge. See advertisement in this issue for further particulars.

MAY 13.—**Ryde.**—STATION.—For erection of a pumping station at the Knighton Waterworks, near Newchurch. Conditions, specifications, forms of tender, and quantities from the Borough Engineer, Town Hall, Ryde, or Consulting Engineer, Mr. W. Matthews, 39, Victoria-street, Westminster. Deposit of 2*l.* 2s.

MAY 14. — **Bury St. Edmunds.** — SCHOOL.—Erection of new infants' school and alterations to the existing buildings at the Brandon High-street Council School. Drawings, specification, and form of contract with the County Architect,

BUILDING—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

Mr. A. Ainsworth Hunt, 51, Abbeygate-street, Bury St. Edmunds. Quantities on deposit of 2*l.* 2s.

* MAY 14.—**Leigh-on-Sea.**—NEW SCHOOL.—The Essex Education Committee (Rochford Hundred District Committee) invite tenders for new school. See advertisement in this issue for further particulars.

NO DATE.—**Doncaster.**—PREMISES.—Erection of new Liberal Club premises, St. James'-street, Doncaster. Messrs. Garside & Pennington, architects and surveyors, Ropergate, Pontefract.

NO DATE.—**Durham.**—INSTITUTE.—Erection of a new church institute for St. Margaret's, Durham. Plans with Mr. W. H. Wood, F.R.I.B.A., architect, 20, Collingwood-street, Newcastle-on-Tyne.

NO DATE.—**Edlington.**—HOTEL.—For erection of proposed York Hotel, Edlington, near Doncaster. Names to Mr. J. Simmons, surveyor, 10, High-street, Doncaster. Deposit of 2*l.* 2s. for quantities. Mr. T. E. Richards, A.R.I.B.A., architect, Market-square-chambers, Pontypridd, Glam.

NO DATE.—**Hull.**—PICTURE HALL.—For erection of the Eureka Picture Hall, Hessle-road. Mr. J. Abbott, architect and surveyor, 18, Newland-avenue, Hull. Deposit of 1*l.* 1s.

NO DATE.—**Huntington.**—SCHOOL.—Alterations and additions to Huntington Council School. Mr. J. C. Wrigley, Secretary, County Hall, Northallerton.

NO DATE.—**Kelloe.**—ADDITIONS, ETC.—For alterations and additions to Kelloe P.M. Chapel. Mr. J. Wilson Hays, architect, Wingate, Co. Durham.

NO DATE.—**Longwood.**—HOUSES.—Erection of two semi-detached houses, Salendine Nook. Plans seen, and quantities from Mr. Sanderson M Balmford, architect, Longwood.

NO DATE.—**Newcastle.**—SCHOOL.—Erection of a new public elementary school at Walker Gate. Quantities on deposit of 1*l.* 1s. to Mr. Spurley Hey, Secretary of Education Committee, Education Offices, Northumberland-road, Newcastle-upon-Tyne.

NO DATE.—**Redditch.**—EXTENSIONS.—For factory extensions at Redditch. Names to Mr. Francis F. Baylis, architect, Redditch.

NO DATE.—**Southminster.**—DRILL HALL, ETC.—Erection of drill hall, instructor's quarters, stores, etc. Quantities on deposit of 2*l.* 2s. to Colonel F. F. Johnson, C.B., Secretary, Territorial Force Association, County of Essex, Market-road, Chelmsford.

NO DATE.—**Swindon.**—THEATRE.—Erection of a cinematograph theatre, Fleet-street. Plans and specifications with the architect, Mr. R. J. Beswick, 10, Victoria-road, Swindon.

NO DATE.—**Whitby.**—SHELTER.—Erection of a shelter on the West Cliff. Particulars from Mr. T. K. Scott, Surveyor, U.D. Council, Flowergate.

ENGINEERING, IRON, AND STEEL.

APRIL 29.—**Limerick.**—EXTENSIONS.—For extension to carbonising plant at the City Gasworks, Dock-road. Particulars, plans, and specifications at the Engineer's and Manager's Offices, Gasworks, Limerick.

APRIL 29.—**Rotherham.**—SPRINKLERS.—For erection of six sprinklers at Aldwarke Sewage Works. Particulars from the Borough Engineer, Town Hall.

APRIL 29.—**Westwell.**—DISINFECTOR.—For erection of a steam disinfector, and erection of a building to contain same, at the Workhouse, Westwell, near Ashford. Plan and specification with Mr. J. M. Poncia, Clerk, 17, Bank-street, Ashford, Kent.

APRIL 30.—**Lexden.**—BRIDGE.—Erection of a steel girder and concrete bridge. Plans and specifications at the Surveyor's Office, Mr. J. Ennals, Straight-road, Lexden.

MAY 1.—**Abergavenny.**—WATERWORKS.—For the construction of spring and stream intakes, collecting, balancing, and dividing chambers, providing and laying cast-iron pipes, also formation of an open concrete service reservoir of 3½ million gallons capacity, and other works. Drawings, specification, and quantities with the engineer, Mr. E. Wilson Dixon, M.Inst.C.E., 3, East-parade, Leeds. Deposit of 3*l.*

MAY 2.—**London.**—TRENCHES.—For excavating and building trenches for a hot-water and heating system and other works at Workhouse and Infirmary, Bancroft-road, Mile End, E. Drawing, specification, conditions, and form of tender by architect, Mr. Edmund J. Harrison, 9, Gray's Inn-square, W.C. Deposit of 3*l.* 3s. to Mr. Benjamin Catmur, Clerk to the Guardians, Guardians' Offices, Bancroft-road, Mile End, E.

MAY 9.—**Antrim.**—WELL.—For sinking a well and erection of a pump at Church-lane, Doagh. Specification with Mr. J. L. Clark, Clerk, Union Office, Antrim.

* JUNE 5.—**Canning Town, E.**—REFUSE DESTRUCTOR.—The West Ham B.C. invite tenders for a refuse destructor and steam-raising plant. See advertisement in this issue for further particulars.

FURNITURE, PAINTING, MATERIALS, etc.

APRIL 29.—**Chertsey.**—PAINTING.—For painting the outside wood, ironwork verandah, etc., of the infirmary at the Union Workhouse, Ottershaw, Chertsey. Specification with the Master of the Workhouse, at Ottershaw.

APRIL 30.—**London.**—PAINTING.—External painting and repairs at the Lambeth Parish School, Elder-road, West Norwood, S.E. Forms of tender from Mr James L. Goldspink, Clerk to the Guardians, Guardians' Offices and Board-room, Brook-street, Kennington-road, S.E. Deposit of 2*l.* for specification.

APRIL 30.—**London.**—PAINTING.—For painting road, Leytonstone. Specification, form of tender, work to the outside of the Public Baths, Cathall-and particulars from Mr. E. H. Essex, A.M.Inst.C.E., Surveyor to the Council, at his offices, Town Hall, Leyton.

APRIL 30.—**Sunderland.**—PAINTING.—For painting, etc., at Bishopwearmouth Cemetery Specification seen, and form of tender at the Borough Surveyor's Office, Town Hall.

APRIL 30.—**West Hartlepool.**—PAINTING.—For the painting works at the Ward-Jackson Park, Burn Valley-gardens, and fire brigade station. Specifications seen, and forms of tender from Mr. Nelson F. Dennis, M.Inst.C.E., Borough Engineer and Surveyor, Municipal Buildings.

* MAY 2.—**Various.**—CLEANING AND PAINTING.—The Midland Railway Company invite tenders for cleaning and painting station buildings, etc., at various towns. See advertisement in this issue for further particulars.

MAY 6.—**Dartford.**—TIMBER.—For supply of about 150 fathoms of best Baltic yellow deal and batten ends for splitting for firewood. Mr. Eustace J. Hobbs, Clerk, Union Offices, Dartford.

* MAY 6.—**Plymouth.**—DECORATION.—The Plymouth B.C. invite tenders for decoration of the great hall of the Guildhall. See advertisement in this issue for further particulars.

MAY 7.—**Gawsworth.**—PAINTING, ETC.—For painting, distempering, etc., interior and exterior of the school premises. Specifications from the headmaster, Mr. F. W. Proctor

* MAY 8.—**London, S.W.**—CLEANING AND PAINTING.—The Metropolitan Asylums Board invite tenders for cleaning and painting and repairs at Western Fever Hospital, Seagrave-road, Fulham, S.W. See advertisement in this issue for further particulars.

MAY 10.—**Pontycymmer.**—PAINTING, ETC.—For painting and repairing the exterior of the Royal Hotel; also thirty-three houses, at Bridgend-road. Specifications and forms of tender from Mr. Frederick Jenkins, A.A.I., surveyor and valuer, 53, Queen-street, Cardiff.

* MAY 14.—**West Ham.**—PAINTING, ETC.—The West Ham B.C. invite tenders for painting, cleansing, repairs, etc., of public buildings. See advertisement in this issue for further particulars.

* MAY 20.—**Dartford.**—PAINTING AND REPAIRS.—The Dartford Joint Hospital Committee invite tenders for painting and repairs at Infectious Diseases Hospital, Bow Arrow-lane. See advertisement in this issue for further particulars.

NO DATE.—**Lymington.**—PAINTING.—For painting, papering, and entire redecoration of Boldre Grange House. Specifications and particulars from Mr. Rawdon V. Michell, Wainsford Estate Office (Wainsford Common), near Lymington.

NO DATE.—**Tilbury.**—FENCE, ETC.—For a new corrugated-iron fence and two gates. For particulars apply to the Secretary, Progressive Club, Tilbury.

NO DATE.—**Whitby.**—PAINTING.—For painting and decorating the interior of the Congregational Church, West Cliff. Particulars from Mr. Geo. S. French, architect, Normanby-terrace, Whitby.

ROADS, SANITARY AND WATER WORKS.

APRIL 26.—**Barnstaple.**—DRAINAGE.—For drainage work at Portland-buildings. Mr. E. Y. Saunders, M.Inst.M.E., Borough Surveyor, Barnstaple.

APRIL 27.—**Downpatrick.**—SEWAGE.—For the construction of a sewer at John-street. Specification at the D.C. Office, Workhouse, Downpatrick.

APRIL 27.—**Southwick.**—FLINTS.—Supply of hand-picked flints or of dug flints and fine flint gravel. Forms of tender from Mr. Geo. W. Warr, Surveyor to the Council, Town Hall, Southwick, Sussex.

APRIL 27.—**Wrotham.**—STONE.—For supply of stone. Conditions of contract and forms of tender from Mr. F. T. Elliott, Surveyor of the Council, Borough Green.

APRIL 29.—**Brechin.**—STREETWORK.—For street causewaying with granite or whinstone setts. Specification and quantities from Mr. W. Eggie, Burgh Surveyor, on deposit of 1*l.*

APRIL 29.—**Dublin.**—SEWERS.—For construction of sewers at Sutton and Baldoyle. Plans and specifications by Mr. P. H. McCarthy, B.E., civil engineer, 39, Westmoreland-street, Dublin. Deposit of 1*l.* 1s. for quantities.

* APRIL 29.—**London, S.E.**—ROAD-MAKING.—The Camberwell B.C. invite tenders for kerbing, channelling, foundations for asphalt paving, and roadwork in Red Post-hill, North Dulwich, S.E. See advertisement in this issue for further particulars.

APRIL 29.—**Macclesfield.**—ROAD.—For diversion of the highway near Wincle Church. Particulars from Mr. Thomas Carswell, the District Surveyor, 19, King Edward-street, Macclesfield.

APRIL 29.—**Prestwich.**—STREETS.—Private street improvement in Richmond-avenue. Conditions of contract at the Surveyor's Office, Council Offices, Prestwich. Plan, specification, and quantities on deposit of 2*l.* 2s.

APRIL 29.—**Rathmines.**—SEWAGE.—For the laying of sewers in Rathmines, Rathmines Upper, and Rathgar roads. Plans, conditions of contract, specification, and form of tender at the Engineer's Office, Town Hall, Rathmines. Deposit of 1*l.* 1s.

APRIL 29.—**Walton-le-Dale.**—ROAD.—For converting the present macadamised roadway to granite cube paving on concrete foundation. Plans and general conditions seen, and specification and quantities from Mr. James Leigh, Surveyor, Council Offices, Bamber Bridge, on deposit of 1*l.* 1s.

APRIL 30.—**Stowmarket.**—GRANITE.—For supply of broken granite and broken flints. Mr. P. C. G. Hayward, Clerk to the Council, the Old Bank, Stowmarket

APRIL 30.—**Swansea.**—STREETS.—For private street works in Firm-street. Plans and specifications seen, and quantities from the Borough Surveyor, 13, Somerset-place.

APRIL 30.—**West Hartlepool.**—STREETS.—Construction of May-street, partial construction of Amberton-road. Plans and specifications seen, and forms of tender with quantities from Mr. Nelson F. Dennis, M.Inst.C.E., Borough Engineer, Municipal Buildings.

APRIL 30.—**Whitchurch.**—STREET.—For private street improvement works in Heol-y-forlan, etc., in the parish of Whitchurch. Plans and specifications seen, and quantities from the Surveyor, Mr. James Holden, A.M.Inst.C.E., Park House, 20, Park-place, Cardiff.

MAY 1.—**Broughton.**—STONES, ETC.—For supply of road stones. Forms of tender and particulars from the District Surveyor, Mr. W. Newton, Drury, Buckley, Chester.

MAY 1.—**Hawarden.**—STONES.—For supply of road stones. Forms of tender and particulars from the District Surveyor, Mr. Wm. Newton, Drury, Buckley, Chester.

MAY 1.—**Lanchester.**—ROAD.—For making new road from High Hedleyhope Farm to Tow Law. Drawings, specifications, and conditions of contract seen, and quantities and forms of tender from Mr. G. T. Wilson, Architect and Surveyor, 21, Durham-road, Blackhill, Co. Durham.

MAY 3.—**Harrogate.**—WIDENING.—For widening of East-parade. Plans seen, and quantities from Mr. C. E. Rivers, A.M.Inst.C.E., Borough Engineer and Surveyor

MAY 3.—**Newry.**—SEWAGE.—For constructing a new sewer in King-street. Tender form, plans, drawings, and specifications with Mr. C. Blaney, Town Surveyor, Town Hall, Newry.

MAY 3.—**Richmond.**—STREET.—For constructing a new street through the garden of "The Elms" to connect with Ennerdale-road Drawings and conditions of contract seen, and particulars from Mr. J. H. Brierley, Borough Surveyor, Town Hall, Richmond, Surrey. Deposit of 1*l.* 1s.

MAY 3.—**Stewarton.**—SEWAGE.—For sewage disposal works. Plans with the Surveyor, Stewarton, and general conditions, specification, and quantities from the engineers, Messrs. Elliot & Brown, A.MM.Inst.C.E., Burton-buildings, Parliament-street, Nottingham, on deposit of 1*l.* 1s.

MAY 4.—**Portrush.**—WATER MAIN.—For laying an additional 6-in. water main from the clear water basin in the Townland of Crossreegh, *viâ* the Ballywillan-road, Crocknamack-road, Coleraine-road, and Eglinton-street to Mount Royal, main street. Plans and specification seen, and form of tender and quantities from the Engineer, Mr. J. S. Kennedy, C.E., Bridge-street, Coleraine.

MAY 6.—**Watford.**—SEWAGE.—For construction of stoneware pipe sewer and storm-water sewer, with manholes, etc. Drawing, specification, and form of tender from Mr. W. W. Newman, A.M.Inst.C.E., Engineer *pro tem.*, Council Offices, High-street, Watford.

* MAY 7.—**Bromley, Kent.**—ROAD-MAKING.—The Bromley B.C. invite tenders for sewering, levelling, paving, metalling, flagging, channelling, and making good Shawfield Park. See advertisement in this issue for further particulars.

* MAY 7.—**Frinton-on-Sea.**—ROAD-MAKING.—The Frinton-on-Sea U.D.C. invite tenders for forming and making-up of Crescent-road. See advertisement in this issue for further particulars.

MAY 8.—**Gravesend.**—STONE.—For supply of Guernsey granite spalls. Mr. Wm. Jno. King, Clerk to the Guardians, 13, Victoria-place, Stone-street, Gravesend.

MAY 10.—**Baildon.**—GRANITE, ETC.—For supply of broken granite and broken limestone. Apply to Mr. J. Bentley, Clerk.

MAY 10.—**Folkestone.**—SEWAGE.—For the construction of screening chamber, outfall chamber, etc., compressed-air pipe line, sewage lift, air compressing plant Plans, particulars, and forms of tender from Mr. A. E. Nichols, M.Inst.C.E., Borough Engineer, Municipal Offices, Folkestone, on deposit of 2*l.* 2s.

MAY 13.—**Glastonbury.**—SEWAGE.—Alterations and additions to the existing sewerage system. Plans and specification with engineers, Messrs. A. P. I. Cotterell & Carr, M. and A.M.Inst.C.E., of 26, Victoria-street, Westminster, and 28, Baldwin-street, Bristol. Deposit of 3*l.* 3s.

MAY 15.—**Isleworth.**—ROAD.—For making-up portion of Ridgeway-road, Spring-grove, Isleworth. Plans and specification seen, and quantities and form of tender from Mr. J. G. Carey, A.M.Inst.C.E., Engineer and Surveyor to the Council, on deposit of 1*l.* 1s.

MAY 15.—**Lenham.**—SEWAGE.—For main sewerage and sewage disposal works. Particulars, forms of tender, and plans with the consulting engineer, Mr. H. H. Humphreys, 28, Victoria-street, Westminster, S.W. Deposit of 5*l.*

NO DATE.—**Howden.**—PAVING.—For channelling and repaving Bridgegate-street, Howden. Specifications and particulars with Mr. John Anderson, Highway Surveyor, Howden.

NO DATE.—**Ogmore Vale.**—ROADS, ETC.—For the construction of new roads and sewers on the Tynewydd Estate, Ogmore Vale, Glam. Plans and specifications at the Estate Department of Messrs. Cory Bros. & Co., Ltd., Bute-street, Cardiff. Quantities on deposit of 1*l.* 1s.

Public Appointments.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*CLERK OF WORKS	Hackney Borough Council	3l. 3s. per week	May 1
*CLERK OF WORKS	Surrey Education Committee	160l. per annum	May 4
*CLERK OF WORKS	Gosport, Alverstoke Ed. Com.	2l. 10s. per week	May 4
*ARCHITECT	Hackney Borough Council	See advertisement in this issue	May 6
*ASSISTANT ENGINEER FOR BLDGS. & ARCHITECTURE	Bombay Municipality	See advertisement in this issue	May 31

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*SALVAGE & OTHER STOCK, 86, BANNER-ST., GOLDEN-LANE, E.C.—On the Premises	Fryett, White, & Co.	April 30
*BUILDER'S AND CONTRACTOR'S STOCK, PLANT, ETC., ROMFORD—On the Premises	J. T. Skelding & Holland	April 30
*BUILDING SITE, LEWISHAM, S.E.—At the Mart	Wiltshire & Co.	May 3
*BUILDING MATERIALS (BY TENDER), GROSVENOR ESTATE—On the Premises	White, Berry, & Taylor	May 8
*FREEHOLD BUILDING LAND, STAMFORD-HILL—At the Mart	Edwin Fox, Bousfield, Burnetts, & Baddeley	May 15
*FREEHOLD BUILDING SITE, EUSTON-ROAD, N.W.—At the Mart	Edwin Fox, Bousfield, Burnetts, & Baddeley	May 15
*FREEHOLD BUILDING LAND, ROYAL VICTORIA DOCKS, ETC.—At the Mart	Henry Holmes & Co.	May 22
*BUILDING SITES, MUSWELL-HILL—At the Mart	Ventom, Bull, & Cooper	May 22
*FREEHOLD BUILDING LAND, SUDBURY, MIDDLESEX	Millar, Son, & Co.	May

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

April 3.—By F. VARLEY & SON.

Holloway.—51, Davenant-rd., f., y.r. 36l. £330
Finsbury Park.—11, Ennis-rd., u.t. 55 yrs., g.r. 6l. 6s., y.r. 36l. 205
45, Adolphus-rd., u.t. 61 yrs., g.r. 12l. 12s., p. 315

By T. WOODS.

Hounslow, Middlesex.—Staines-rd., building site, 1¼ acre, f., High-st., building land, 9 acres, f. and c. 1,920
Isleworth, Middlesex.—Twickenham-rd., f.g.r. 8l., reversion in 52 yrs. 200
24 and 28, Church-st., f. 350
Hanwell.—Boston-rd., two building sites, c. ... 440

By KEMSLEY.

Romford, Essex.—138 and 140, Brentwood-rd., f., w.r. 40l. 6s. 375
94, Albert-rd., f., y.r. 18l. 150

By C. M. STANFORD.

Dovercourt, Essex.—Dovehouse Farm, 42 a. 2 r. 25 p., f. 2,460

April 9.—By SALTER, SIMPSON, & SONS.

Clenchwarton, Norfolk.—Margaretta House and 84 a. 2 r. 19 p., f. 6,450

April 11.—By W. G. CARTER & CO.

Leytonstone.—27, Mornington-rd., f., w.r. 36l. 8s. 250
Bow.—201, Devons-rd. (s.), u.t. 40 yrs., g.r. 5l., w.r. 36l. 8s. 120
Peckham.—9, Oglander-rd., u.t. 63 yrs., g.r. 5l., e.r. 30l. 180

By C. C. & T. MOORE.

Leytonstone.—508, High-rd., u.t. 56 yrs., g.r. 10l., y.r. 40l. 430
Mile End.—8, 10, and 12, Sceptre-st., f., w.r. 66l. 6s. 420
91, West-st., f., w.r. 31l. 4s. 155
Hornsey.—79, Corbyn-st., u.t. 58 yrs., g.r. 6l., y.r. 30l. 200
High Barnet.—Ravenscroft Park-rd., Beechcroft, u.t. 74 yrs., g.r. 8l., y.r. 45l. 400

By P. J. DIXON & SON.

Limehouse.—25½, Burdett-rd., u.t. 50 yrs., g.r. 7l., p. 300

By WILLIAM WESTON.

Chalfont St. Peter, Bucks.—The Wheatleys, f., y.r. 85l. 1,530
Rickmansworth-rd., four building sites, f. ... 160
Mayfield-gr., three plots, f. 120

April 15.—By KEMSLEY.

King's Cross.—6, Railway-st., u.t. 32 yrs., g.r. 5l., w.r. 41l. 12s. 120
Hornsey.—103, Campsbourne-rd., u.t. 49 yrs., g.r. 5l. 10s., w.r. 33l. 16s. 100
Barking.—21 to 22, The Grove, f., w.r. 33l. 16s. 225

By STOATE & STANLEY.

Tottenham.—37 and 39, Fairbourne-rd., u.t. 87 yrs., g.r. 12l. 12s., w.r. 72l. 16s. 340
Harringay.—106, Hewitt-rd., u.t. 85 yrs., g.r. 7l., y.r. 39l. 230

April 16.—By BROAD, WILTSHIRE, & PENNY.

Clapton.—15, 17, and 19, Linscott-rd., u.t. 66 yrs., g.r. 21l., w.r. 132l. 12s. 490
Hackney.—53, 54, and 55, Havelock-rd., u.t. 43½ yrs., g.r. 9l., w.r. 78l. 330

By JOHN BOTT & SONS.

Herne Hill.—18, Holmedene-av., u.t. 89 yrs., g.r. 9l. 10s., p. 330

By WM. HOLLIS.

Hendon.—Church-rd., wheelwrights' and blacksmiths' shops, stabling, etc., u.t. 53 yrs., g.r. nil, y.r. 82l. 4s., also l.g. rents 106l. 9s., u.t. 53 yrs., g.r. 10l. 16s. 1,975
New Southgate.—43, Belle Vue-rd., u.t. 68 yrs., g.r. 6l., p. 115
Finchley.—10 and 12, Elm Park-rd., f., y.r. 95l. 1,090
17, Salisbury-ter., f., w.r. 26l. 250

By WHATLEY, WING, & BAMFORD.

Great Missenden, Bucks.—Building land, 2 a. 2 r. 24 p., f. 200

By DREWEATT & WATSON.

Thatcham, Berks.—Chapel-st., six cottages, f. 595
Newtown, five cottages, f. 350
Cold Ash, Berks.—Heath-la., two cottages, f... 260

April 17.—By FOSTER & CRANFIELD.

Rotherhithe.—41 and 43, Aspinden-rd., u.t. 41 yrs., g.r. 8l., w.r. 72l. 16s. 420

Stoke Newington.—30, Brighton-rd., u.t. 49 yrs., g.r. 6l., e.r. 35l. £205
Kentish Town.—18, Kelly-st., u.t. 24½ yrs., g.r. 4l. 4s., w.r. 33l. 8s. 150

By FRANK JOLLY & JAMES.

Dalston.—61, Parkholme-rd., u.t. 79 yrs., g.r. 10l. 10s., y.r. 48l. 410
7, St. Mark's-sq., u.t. 54 yrs., g.r. 8l., y.r. 48l. 320
26 and 28, King Henry-st., u.t. 53 yrs., g.r. 6l., w.r. 59l. 16s. 305

By ROBSON & PERRIN.

Stoke Newington.—24, Mayville-st., u.t. 47 yrs., g.r. 5l. 5s., w.r. 39l. 230
Highgate,—55, Holmesdale-rd., u.t. 66 yrs., g.r. 6l., e.r. 34l. 230
Tottenham.—Chalgrove-rd., plot of land, f. ... 150

By WILLIAM WESTON.

St. John's Wood.—34 and 38, New-st., u.t. 15 yrs., g.r. 11l. 5s., w. and y.r. 99l. 12s. ... 350
Paddington.—8, Elgin-ave., u.t. 52 yrs., g.r. 10l., p. 425

By MADDISON, MILES, & MADDISON.

Caister-on Sea, Norfolk.—Arable and pasture, 3 acres, f. 210
Grazing marsh, 11 a. 1 r. 32 p., f. 510
Burgh Castle, Suffolk.—Church Field, 4 a. 2 r. 18 p., f. 180

By GRIMLEY & SON.

Warwick.—33 and 35, Jury-st., f., y.r. 39l. 10s... 320
1 to 7, 13 to 21 (odd), North Rock, f., w.r. 71l. 10s. 420

April 18.—By H. J. BLISS & SONS.

Victoria Park.—292 and 298, Old Ford-rd., u.t. 42 yrs., g.r. 16l., y.r. 80l. 555

By MORTON & WATERS.

Chiswick.—1, Ravenscourt-sq., f., e.r. 65l. 630

By NEWBON & SHEPHARDS.

Kentish Town.—122, Prince of Wales-rd., u.t. 37 yrs., g.r. 6l., y.r. 42l. 280
Stoke Newington.—1 to 5, Burma-mews, f., w.r. 72l. 16s. 210
Holloway.—31a, Medina-rd., u.t. 39 yrs., g.r 4l. 10s., y.r. 34l. 245
Barnsbury.—23 and 24, Cumberland-st., u.t. 44 yrs., g.r. 14l., y. and w.r. 94l. 12s. 460
Holloway.—Mulkern-rd., f.g. rents 21l., reversion in 54 yrs. 500
Mulkern-rd., f.g. rents 13l., reversion in 80 yrs. 285
Calverley-gr., f.g. rents 16l. 10s., reversions in 51 and 68 yrs. 410
Gillespie-rd., f.g. rents 15l. 15s., reversion in 69 yrs. 365
42, Scholefield-rd., f., w.r. 28l. 12s. 200
Hornsey.—502, Hornsey-rd. (s.), f., gross r. 62l. 700

By STIMSON & SONS.

Kensington.—35, Milson-rd., u.t. 51½ yrs., g.r. 3l. 5s., w.r. 33l. 16s. 150
Notting Hill.—24, Fowell-st., u.t. 36½ yrs., g.r. 6l. 10s., p. 100
Old Kent-rd.—30 to 33, Astley-st., u.t. 9½ yrs., g.r. 14l., w.r. 114l. 8s. 165
Peckham.—1, Linden-gr., u.t. 32 yrs., g.r. 6l., e.r. 50l. 300
Canonbury.—99, Petherton-rd., u.t. 37½ yrs., g.r. 7l. 7s., w.r. 68l. 18s. 250
Brixton.—228, Stockwell-rd., u.t. 52 yrs., g.r. 8l. 8s., w.r. 65l. 230
1, Hayter-rd., u.t. 55 yrs., g.r. 10l. 10s., e.r. 50l. 280
Streatham.—107, Sunnyhill-rd., u.t. 49½ yrs., g.r. 3l. 16s., y.r. 38l. 300

By CHARLES HALL.

Stockwell.—65, Landor-rd., u.t. 57 yrs., g.r. 7l. 5s., e.r. 40l. 300
Clapham.—38, Haselrigge-rd., u.t. 50 yrs., g.r. 5l. 10s., w.r. 49l. 8s. 200
Balham.—60 and 62, Chesnut-gr., u.t. 87 yrs., g.r. 15l., w.r. 114l. 8s. 775

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. for beerhouse; p.h. for public-house; o. for offices; s. for shops; ct. for court.

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and not to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at this office, unless he has specially asked for them.

All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from inattention to this.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not

PRICES CURRENT OF MATERIALS.

**** **Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.**

BRICKS, &c.

Per 1000 Alongside, in River.	£ s. d.
Best Stocks	1 14 0
Picked Stocks for Facings	2 10 0

Per 1000, Delivered at Railway Depôt.	£ s. d.		£ s. d.
Flettons	1 13 0	Best Blue Pressed Staffordshire	3 15 0
Best Fareham Red	3 12 0	Do. Bullnose	4 0 0
Best Red Pressed Ruabon Facing	5 0 0	Best Stourbridge Fire Bricks	4 0 0
GLAZED BRICKS—			
Best White, Ivory, and Salt Glaz'd Str'tch'rs	11 7 6	Double Headers	13 17 6
		One Side and two Ends	17 17 6
Headers	10 17 6	Two Sides and one End	18 17 6
Quoins, Bullnose, and 4½ in. Flats	14 17 6	Splays & Squints	16 7 6
D'hle Stretchers	16 17 6		

Second Quality £1 10s. per 1000 less than best.

	s. d.	
Thames and Pit Sand	6 9	per yard, delivered.
Thames Ballast	5 6	" "
Best Portland Cement	31 0	per ton, "
Best Ground Blue Lias Lime	19 0	" "

NOTE—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 13s. 0d. per yard delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly dpt.

STONE.

Per Ft. Cube.

	s. d.
BATH STONE—delivered on road waggons, Paddington Depôt	1 6½
Do. do. delivered on road waggons, Nine Elms Depôt	1 8½
PORTLAND STONE (20 ft. average)—	
Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 3
White Basebed, delivered on road waggons Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 4½

STONE (*Continued*).

Per Ft. Cube, delivered at Railway Depôt.

	s.	d.		s.	d.
Ancaster in blocks..	1	10	Closeburn Red Freestone	2	0
Beer in blocks	1	6	Red Mansfield Freestone	2	4
Greenshill in blocks	1	10	Talacre & Gwespyr Stone	2	4
Darley Dale in blocks	2	4			
Red Corsehill in blocks	2	3			

YORK STONE—*Robin Hood Quality.*

Per Ft. Cube, Delivered at Railway Depôt.	s.	d.
Scappled random blocks	2	10

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landings to sizes (under 40 ft. super.)	2	3
6 in. rubbed two sides ditto, ditto	2	6
3 in. sawn two sides slabs (random sizes)	0	11½
2 in. to 2½ in. sawn one side slabs (random sizes)	0	7
1½ in. to 2 in. ditto, ditto	0	6

HARD YORK—

Per Ft. Cube, Delivered at Railway Depôt.		
Scappled random blocks	3	0

Per Ft. Super., Delivered at Railway Depôt.

in. sawn two sides landing to sizes (under 40 ft. super.)	2	8
6 in. rubbed two sides ditto	3	0
3 in. sawn two sides slabs (random sizes)	1	2
2 in. self-faced random flags	0	5

SLATES.

Per 1000 of 1200 at Railway Depôt.

In. In.	£	s.	d.	In. In.	£	s.	d.
20×10 best blue Bangor	13	2	6	20×10 best Eur'ka unfading green	15	17	6
20×12 ditto	13	17	6	20×12 ditto	18	7	6
20×10 1st quality ditto	13	0	0	18×10 ditto	13	5	0
20×12 ditto	13	15	0	16×8 ditto	10	5	0
16×8 ditto	7	5	0	20×10 permanent green	11	12	6
22×10 best blue Portmadoc	12	12	6	18×10 ditto	9	12	6
16×8 ditto	6	12	6	16×8 ditto	6	12	6

TILES.

At Railway Depôt.

	s.	d.		s.	d.
Best plain red roofing (per 1000)	42	0	Best "Hartshill" brand, plain sand-faced (per 1000)	45	0
Hip and Valley (per doz.)	3	7	Do. pressed (per 1000)	42	6
Best Broseley (per 1000)	50	0	Do. Ornamental (per 1000)	47	6
Do. Ornamental (per 1000)	52	6	Hip (per doz.)	4	0
Hip and Valley (per doz.)	4	0	Valley (per doz.)	3	6
Best Ruabon red, brown, or brindled (Edw'ds) (per 1000)	57	6	Staffords. (Hanley) Reds or Brindled (per 1000)	42	6
Dc. Ornamental (per 1000)	60	0	Hand-made sand-faced (per 1000)	45	0
Hip (per doz.)	4	0	Hip (per doz.)	4	0
Valley (per doz.)	3	0	Valley (per doz.)	3	6

WOOD.

BUILDING WOOD.	At per standard. £	s.	d.		£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	14	0	0	...	15	10	0
Deals: best 3 by 9	13	10	0	...	14	10	0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11	10	0	...	12	10	0
Battens: best 2½ by 6 and 3 by 6	0	10	0	7 in. and 8 in. less than			
Deals: seconds	1	0	0	less thn best.			
Battens: seconds	0	10	0	"		"	
2 in. by in. and 2 in. by 6 in.	9	10	0	...	10	10	0
2 in. by 4½ in. and 2 in. by 5 in.	9	0	0	...	10	0	0
Foreign Sawn Boards—							
1 in. and 1½ in. by 7 in.	0	10	0	more than battens.			
½ in.	1	0	0	"			
Fir timber: best middling Danzig or Memel (average specification)	At per load of 50 c.ft. 5	0	0	...	5	10	0
Seconds	4	10	0	...	5	0	0
Small timber (8 in. to 10 in.)	3	17	6	...	4	0	0
Small timber (6 in. to 8 in.)	3	5	0	...	3	10	0
Swedish balks	2	12	6	...	3	0	0
Pitch-pine timber (30 ft. average)	5	5	0	...	6	0	0

JOINERS' WOOD.	At per standard. £	s.	d.		£	s.	d.
White Sea: first yellow deals, 3 in. by 11 in.	24	10	0	...	25	10	0
3 in. by 9 in.	22	10	0	...	23	10	0
Battens 2½ in. and 3 in. by 7 in.	17	0	0	...	18	0	0
Second yellow deals, 3 in. by 11 in.	19	0	0	...	20	0	0
" " 3 in. by 9 in.	18	0	0	...	19	10	0
Battens, 2½ in. and 3 in. by 7 in.	14	0	0	...	15	0	0
Third yellow deals, 3 in. by 11 in. and 9 in.	14	0	0	...	15	0	0
Battens, 2½ in. and 3 in. by 7 in.	11	10	0	...	12	10	0
Petersburg: first yellow deals, 3 in. by 11 in.	21	10	0	...	22	10	0
Do. 3 in. by 9 in.	18	10	0	...	19	10	0
Battens	14	0	0	...	15	0	0
Second yellow deals, 3 in. by 11 in	16	10	0	...	17	10	0
Do. 3 in. by 9 in.	15	0	0	...	16	0	0
Battens	11	10	0	...	12	10	0
Third yellow deals, 3 in. by 11 in.	13	10	0	...	14	10	0
Do. 3 in. by 9 in.	13	0	0	...	14	0	0
Battens	10	10	0	...	11	0	0
White Sea and Petersburg—							
First white deals, 3 in. by 11 in.	15	0	0	...	16	0	0
" " 3 in. by 9 in.	14	0	0	...	14	10	0
Battens	11	10	0	...	12	10	0
Second white deals, 3 in. by 11 in.	14	0	0	...	15	0	0
" 3 in. by 9 in.	13	0	0	...	14	0	0
Battens	10	10	0	...	11	0	0
Pitch-pine: deals	19	0	0	...	21	0	0
Under 2 in. thick extra	0	10	0	...	1	0	0
Yellow Pine—First, regular sizes	48	0	0	upwards.			
Oddments	32	0	0	"			
Seconds, regular sizes	33	0	0	"			
Oddments	28	0	0	"			
Kauri Pine—Planks per ft. cube.	0	4	6	...	0	6	0

WOOD (*Continued*).

JOINERS' WOOD (*Continued*)—	£	s.	d.		£	s.	d.
Danzig and Stettin Oak Logs— Large, per ft. cube	0	3	0	...	0	3	9
Small " "	0	2	6	...	0	2	6
Wainscot Oak Logs, per ft. cube	0	6	6	...	0	8	0
Dry Wainscot Oak, per ft. sup. as inch	0	0	10	...	0	1	0
¼ in. do. do.	0	0	8½	...		—	
Dry Mahogany—Houndras, Tabasco, per ft. super. as inch.	0	0	10	...	0	1	1
Selected, Figury, per ft. super. as inch	0	1	6	...	0	2	6
Dry Walnut, American, per ft. super. as inch	0	0	10	...	0	1	0
Teak, per load	18	0	0	...	22	0	0
American Whitewood planks, per ft. cube	0	5	0	...	0	6	0

Prepared Flooring, etc.— Per square.

1 in. by 7 in. yellow, planed and shot	0	13	6	...	0	17	0
1 in. by 7 in. yellow, planed and matched	0	14	0	...	0	18	0
1¼ in. by 7 in. yellow, planed and matched	0	16	0	...	1	0	0
1 in. by 7 in. white, planed and shot	0	12	0	...	0	14	6
1 in. by 7 in. white, planed and matched	0	12	6	...	0	15	0
1¼ in. by 7 in. white, planed and matched	0	15	0	...	0	16	6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0	11	0	...	0	13	6
1 in. by 7 in. " "	0	14	0	...	0	18	6
¾ in. by 7 in. white " "	0	10	0	...	0	11	0
1 in. by 7 in. " "	0	12	9	...	0	15	0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £	s.	d.		£	s.	d.
Rolled Steel Joists, ordinary sections	7	10	0	...	8	0	0
Compound Girders, ordinary sections	9	10	0	...	10	0	0
Steel Compound Stanchions	11	0	0	...	12	0	0
Angles, Tees, and Channels, ordinary sections	9	10	0	...	10	0	0
Flitch Plates	9	10	0	...	9	10	0
Cast Iron Columns & Stanchions, including ordinary patterns	7	10	0	...	8	10	0

METALS.

	Per ton, in London. £	s.	d.		£	s.	d.
IRON— Common Bars	9	0	0	...	9	10	0
Staffordshire Crown Bars, good merchant quality	9	5	0	...	9	15	0
Staffordshire "Marked Bars"	11	0	0	...		—	
Mild Steel Bars	9	5	0	...	9	15	0
Hoop Iron, basis price	10	0	0	...		—	
" " Galvanised	17	10	0	...		—	

("And upwards, according to size and gauge.)

Sheet Iron Black—							
Ordinary sizes to 20 g.	10	5	0	...		—	
" " 24 g.	11	5	0	...		—	
" " 26 g.	12	15	0	...		—	

METALS (*Continued*).

IRON (*Continued*)—	Per ton, in London. £	s.	d.		£	s.	d.
Sheet Iron, Galvanised, flat, ordinary quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15	10	0	...		—	
Ordinary sizes to 22 g. and 24 g.	16	0	0	...		—	
" " 26 g.	17	0	0	...		—	
Sheet Iron, Galvanised, flat, best quality— Ordinary sizes to 20 g.	18	10	0	...		—	
" " 22 g. and 24 g.	19	0	0	...		—	
" " 26 g.	20	10	0	...		—	
Galvanised Corrugated Sheets— Ordinary sizes, 6ft. to 8ft. 20 g.	15	0	0	...		—	
" " 22 g. and 24 g.	15	5	0	...		—	
" " 26 g.	16	15	0	...		—	
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	12	10	0	...		—	
Best Soft Steel Sheets, 2 g. & 24 g.	13	10	0	...		—	
" " " 26 g.	15	10	0	...		—	
Cut Nails, 3 in. to 6 in.	11	0	0	...	11		0

(Under 3 in., usual trade extras.)

LEAD, &c.

	£	s.	d.		
LEAD—Sheet, English, 4lb. and up	20	7	6	...	—
Pipe in coils	20	17	6	...	—
Soil pipe	23	17	6	...	—
Compo pipe	23	17	6	...	—
ZINC—Sheet—	In casks of 10 cwt.				
Vielle Montagne	33	10	0	...	—
Silesian	33	5	0	...	—

Zinc, in bundles, 1s. per cwt. extra.

COPPER— Strong Sheet per lb.	0	1	0	...	—
Thin " "	0	1	1	...	—
Copper nails "	0	0	10	...	—
Copper wire "	0	0	10	...	—
BRASS— Strong Sheet "	0	0	11	...	—
Thin "	0	1	0	...	—
TIN—English Ingots "	0	2	0	...	—
SOLDER—Plumbers' "	0	0	9	...	—
Tinmen's "	0	1	0	...	—
Blowpipe "	0	1	2	...	—

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

15 oz. thirds	2½d.	26 oz. fourths	3½d.
" fourths	1¾d.	32 oz. thirds	5d.
21 oz. thirds	3½d.	" fourths	4½d.
" fourths	2½d.	Fluted Sheet, 15 oz.	3½d.
26 oz. thirds	4d.	" 21 oz.	4½d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

⅛ Rolled plate	2½d.	Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white	3½d
⅞ Rough rolled and rough cast plate	2½d.	Ditto, tinted	5d.
¼ Rough rolled and rough cast plate	3d.		

* Not less than two crates.

OILS, &c.		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	3	4
" " " in barrels	"	0	3	5
" " " in drums	"	0	3	7
Boiled " " in barrels	"	0	3	7
" " " in drums	"	0	3	10
Turpentine in barrels	"	0	2	10
" in drums	"	0	3	0
Genuine Ground English White Lead,	per ton	27	10	0
Red Lead, Dry	"	24	0	0
Best Linseed Oil Putty	per cwt.	0	10	6
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.	Per gallon. £	s.	d.
Fine Pale Oak Varnish	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak	0	12	6
Fine Extra Hard Church Oak	0	10	0
Superfine Hard-drying Oak, for seats of Churches	0	14	6
Fine Elastic Carriage	0	12	0
Superfine Pale Elastic Carriage	0	16	0
Fine Pale Maple	0	10	0
Finest Pale Durable Copal	0	18	0
Extra Pale French Oil	1	1	0
Eggshell Flating Varnish	0	18	0
White Pale Enamel	1	4	0
Extra Pale Paper	0	12	0
Best Japan Gold Size	0	10	6
Best Black Japan	0	16	0
Oak and Mahogany Stain	0	9	0
Brunswick Black	0	8	0
Berlin Black	0	16	0
Knotting	0	10	9
French and Brush Polish	0	10	6

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 6 p.m. on Wednesday.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.* unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

ARDGLASS.—For erection of a shop and dwelling, for Mrs. A. Quinn, Ardglass. Messrs. Browne Bros., architects, Ardglass:—

P. Taggart	£403	H. T. Chambers, Downpatrick*	£387
R. McDonald	400		

BUCKS.—For schemes of improvements at various Council Schools, for the County Education Committee:—

Chesham: Whitchill.

Webster & Cannon	£1,280 0	G. Darlington	£1,200 0
Rust & Ratcliffe	1,251 10	H. & R. Abbott, Chesham*	1,199 0
J. Mead	1,242 0		

Chesham: Townsend-road.

D. W. Smith	£520 0	J. Mead	£470 0
G. Darlington	479 0	Rust & Ratcliffe†	463 0
Webster & Cannon	475 3	H. & R. Abbott, Chesham*	419 0
S. Fassnidge	475 0		

Chesham: Waterside (Mixed).

H. & R. Abbott	£642 0 0	J. Mead	£405 0 0
D. W. Smith	536 0 0	Rust & Ratcliffe†	400 0 0
G. Darlington	416 0 0	S. Fassnidge, Chesham*	398 0 0
Webster & Cannon	412 17 6		

Chesham: Waterside (Infants).

D. W. Smith	£234 0	J. Mead	£204 0
H. & R. Abbott	215 0	Rust & Ratcliffe†	200 0
G. Darlington	209 0	S. Fassnidge, Chesham*	195 0
Webster & Cannon	208 10		

Ellesborough.

	For Alterations.	For Repairs.
Webster & Cannon	£407	£46 0 0
Mayne & Son	390	39 0 0
P. J. Clerke	390	39 0 0
G. Parsons	376	37 5 0
H. J. & A. Wright	290	38 0 0
G. Biggs & Sons, Gt. Kingshill*	290	20 0 0

Tingewick.

G. Tombs & Son	250	53 0 0
W. H. Thomas, Buckingham*	190	38 18 0

‡ Alternative tenders.

CLEETHORPES.—For the erection of the proposed King George Cottage Homes. Mr. Ernest Fuskinson, architect, Cleethorpes:—

W. Ion	£1,096 0	Wilkinson & Houghton	£1,025 0
W. Kirton	1,095 10	Mashford & Sons, Ltd.*	927 10
Hewins & Goodhand	1,075 0		

ELY.—For alterations and additions to the High School for Girls. Mr. R. S. W. Perkins, County Surveyor. Quantities by Mr. F. T. Mullett, Downing House, Cambridge:—

Elworthy & Co., Upwell, Wisbech* ... £541 10

ELY.—For the erection of Chief Constable's Offices and Police Houses, for the Standing Joint Committee. Mr. R. S. W. Perkins, County Surveyor. Quantities by Mr. F. T. Mullett, Downing House, Cambridge:—

Morriss Bros.	£2,520 0 0	R. Shanks	£2,130 0 0
Coulson & Lofts	2,442 0 0	H. Feast	2,126 0 0
H. J. Linzell	2,377 0 0	J. G. Cowell	1,976 0 0
Rands & Son	2,193 17 0	Lawrence & Tucker	1,848 0 0
Parren & Son	2,175 17 6	G. W. Heath, March‡	1,738 0 0
Redding & Son	2,175 0 0		
Clarke & Sons	2,161 10 0		
Kidman & Son	2,160 0 0		

‡ Accepted subject to sanction of Local Government Board.

LEEDS.—For erection of St. Oswald's School and Institute, Hunslet. Mr. F. Mitchell, architect and surveyor, Leeds. Quantities by architect:—

Brick, Stone, Joiner, and Plumber: W. Nicholson & Son (Leeds), Ltd., Sheaf-street*	£2,518
Plasterer: J. Phillips, Beeston-road*	
Slater: J. Season, Hunslet-road*	
Painters: Whiteley Bros., Balm-road*	

[All of Leeds.]

LONDON.—For the erection of a warehouse at Park Wharf, Old Ford, E. Mr. Frank Nicholls, architect, 11-12, Finsbury-square, E.C.:—

J. & J. Dean	£2,310	A. Monk	£2,132
Turnbull & Son	2,250	H. Knight & Son	2,125
Perry & Co. (Bow), Ltd.	2,198	W. J. Fryer & Co.	2,099
		G. Parker & Sons*	1,995

LOSSIEMOUTH.—For erection of a villa. Mr. R. B. Pratt, architect, Elgin:—

Slater: J. Wilson, Lossiemouth	£43 10 0
Plasterer: C. Menzies, Lossiemouth	77 18 5
Mason: D. Forsayth, Elgin	387 17 6
Carpenter: G. Farquhar, Lossiemouth	335 0 0
Painters: Stewart Bros., Lossiemouth	43 6 6
Plumber: A. Morrison, Lossiemouth	112 0 0

SUTTON (Isle of Ely).—For the erection of Police Constable's Cottage, for the Standing Joint Committee. Mr. R. S. W. Perkins, County Surveyor:—

J. Parren & Son, Earith* ... £245

TORQUAY.—For the erection of two villas, Newton-road. Mr. F. G. Moore, A.M.Inst.M.E., architect, 9-10, Fleet-street, Torquay:—

Vanstone	£1,509	Povey	£1,230
Yeo	1,291	Blatchford†	1,205

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